Connecting via Winsock to STN

FILE 'MEDLINE' ENTERED AT 04:33:40 ON 01 JUN 2008

FILE 'BIOSIS' ENTERED AT 04:33:40 ON 01 JUN 2008

FILE 'CAPLUS' ENTERED AT 04:33:40 ON 01 JUN 2008

FILE 'EMBASE' ENTERED AT 04:33:40 ON 01 JUN 2008


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=> e IKEZONO-t/au
E1            2     IKEZONO TETSURO/AU
E2            2     IKEZONO TOMIKO/AU
E3            0 --> IKEZONO-T/AU
E4            1     IKEZOUHENE M/AU
E5            1     IKEZU DAISUKE/AU
E6            2     IKEZU FUKUJIRO/AU
E7            1     IKEZU JUICHI/AU
E8            8     IKEZU KAZUAKI/AU
E9            8     IKEZU M/AU
E10           1     IKEZU MIKIO/AU
E11           1     IKEZU MITSURU/AU
E12           1     IKEZU S/AU

=> e IKEZONO t/au
E1           25     IKEZONO KATSUMI/AU
E2            1     IKEZONO KAZUMI/AU
E3           67 --> IKEZONO T/AU
E4           52     IKEZONO TETSUO/AU
E5            2     IKEZONO TETSUO DR/AU
E6            2     IKEZONO TETSURO/AU
E7            2     IKEZONO TOMIKO/AU
E8            1     IKEZOUHENE M/AU
E9            1     IKEZU DAISUKE/AU
E10           2     IKEZU FUKUJIRO/AU
E11           1     IKEZU JUICHI/AU
E12           8     IKEZU KAZUAKI/AU

=> s e3-e6
L1          123 ("IKEZONO T"/AU OR "IKEZONO TETSUO"/AU OR "IKEZONO TETSUO DR"/AU OR
"IKEZONO TETSURO"/AU)

=> e yagi t/au
E1            2     YAGI SYUSUKE/AU
E2            1     YAGI SYUSUKE DR/AU
E3         2304 --> YAGI T/AU
E4           22     YAGI T DR/AU
E5           43     YAGI TADAO/AU
E6           61     YAGI TADASHI/AU
E7            1     YAGI TADASHI DR/AU
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E8           1     YAGI TADASHII/AU
E9           1     YAGI TADASU/AU
E10          1     YAGI TADATOSHI/AU
E11          1     YAGI TAEKO/AU
E12          2     YAGI TAIZO/AU

=> s e3-e4
L2        2326 ("YAGI T"/AU OR "YAGI T DR"/AU)

=> e yagi tosh/au
E1          10     YAGI TOORU/AU
E2          59     YAGI TORU/AU
E3           0 --> YAGI TOSH/AU
E4           6     YAGI TOSHASU/AU
E5           1     YAGI TOSHI/AU
E6           2     YAGI TOSHIAKAI/AU
E7           1     YAGI TOSHIAKE/AU
E8         269     YAGI TOSHIAKI/AU
E9           5     YAGI TOSHIAKI DR/AU
E10         11     YAGI TOSHIE/AU
E11         16     YAGI TOSHIFUMI/AU
E12          1     YAGI TOSHIHARAU/AU

=> s e7-e9
L3         275 ("YAGI TOSHIAKE"/AU OR "YAGI TOSHIAKI"/AU OR "YAGI TOSHIAKI DR"/AU)

=> e omori a/au
E1           1     OMOREGLE ZUWA S/AU
E2           2     OMORI/AU
E3         188 --> OMORI A/AU
E4          16     OMORI A I/AU
E5           1     OMORI A K/AU
E6           1     OMORI AIKO/AU
E7          16     OMORI AKANE/AU
E8           2     OMORI AKEMI/AU
E9           1     OMORI AKIA/AU
E10          9     OMORI AKIHIKO/AU
E11         17     OMORI AKIHIRO/AU
E12          1     OMORI AKIHITO/AU

=> s e3-e5
L4         205 ("OMORI A"/AU OR "OMORI A I"/AU OR "OMORI A K"/AU)

=> s e9
L5           1 "OMORI AKIA"/AU

=> e e12
E1           9     OMORI AKIHIKO/AU
E2          17     OMORI AKIHIRO/AU
E3           1 --> OMORI AKIHITO/AU
E4           1     OMORI AKIIHITO/AU
E5          10     OMORI AKIKO/AU
E6         149     OMORI AKIO/AU
E7         329     OMORI AKIRA/AU
E8           1     OMORI AKIRA DR/AU
E9           1     OMORI AKITOSHI/AU
E10         16     OMORI ALVARO T/AU
E11          8     OMORI ALVARO TAKEO/AU
E12          9     OMORI ALVIN I/AU
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=> s e7-e8
L6          330 ("OMORI AKIRA"/AU OR "OMORI AKIRA DR"/AU)

=> s l1-l6
L7         3205 (L1 OR L2 OR L3 OR L4 OR L5 OR L6)

=> s (cochlin OR coch OR dfna9 OR dfna31 OR COCH5B2 oR COCH-5B2 OR
(coagulation(a)factor(a)c(a)homolog) )
L8         2610 (COCHLIN OR COCH OR DFNA9 OR DFNA31 OR COCH5B2 OR COCH-5B2 OR
(COAGULATION(A) FACTOR(A) C(A) HOMOLOG) )

=> s l8(10a)perilymph?
L9            6 L8(10A) PERILYMPH?

=> dup rem l9
PROCESSING COMPLETED FOR L9
L10           3 DUP REM L9 (3 DUPLICATES REMOVED)

=> d ibib ed abs l10

L10  ANSWER 1 OF 3  EMBASE  COPYRIGHT (c) 2008 Elsevier B.V. All rights reserved on
STN
ACCESSION NUMBER:   2005305489  EMBASE    Full-text
TITLE:              COCH gene and vertigo.
AUTHOR:             Ikezono, Tetsuo
CORPORATE SOURCE:   Department of Otorhinolaryngology, Nippon Medical School.
SOURCE:             Equilibrium Research, (Feb 2005) Vol. 64, No. 1, pp. 1-11.
                    Refs: 24
                    ISSN: 0385-5716  CODEN: EQREDK
COUNTRY:            Japan
DOCUMENT TYPE:      Journal; Article
FILE SEGMENT:       011     Otorhinolaryngology
                    022     Human Genetics
                    029     Clinical and Experimental Biochemistry
                    005     General Pathology and Pathological Anatomy
LANGUAGE:           Japanese
SUMMARY LANGUAGE:   English
ENTRY DATE:         Entered STN: 28 Jul 2005
                    Last Updated on STN: 28 Jul 2005
ED   Entered STN: 28 Jul 2005
     Last Updated on STN: 28 Jul 2005
AB    We have performed a proteomic analysis of the inner ear proteins using 2D-GE.
      In the process of analysis, we have found very unique properties of the COCH
      gene product.  The COCH gene mutated in DFNA9, an autosomal dominant
      hereditary sensorineural hearing loss and vestibular disorder, encodes
      cochlin.  DFNA9 patients show symptoms such as episodes of vertigo, tinnitus,
      aural fullness and hearing loss.  Clinically, these symptoms are consistent
      with the criteria for Meniere's disease.  COCH is the only gene identified so
      far whose mutation leads to the symptoms of Meniere's disease in a significant
      portion of the carriers.  We showed that Cochlin constitutes 70% of inner ear
      proteins, and identified three cochlin isoforms in the inner ear tissue, p63s,
      p44s and p40s, which exhibit significant molecular heterogeneity.  Structure
      analysis of Cochlin isoforms showed that the mutations influence only the
      full-length isoform of Cochlin (p63s), and not the processed Cochlin isoforms
      (p44s and p40s), which do not contain the LCCL domain.  What happens to the
      LCCL domain once it is cleaved from full-length Cochlin was an open issue.  We
      further characterized the expression and structure of Cochlin isoforms by
      isoform-specific antibodies that recognize three distinct domains.  Inner ear,
      as well as perilymph proteins were analyzed by western blot analysis.  We have
      detected Cochlin isoforms in the inner ear tissue and we have identified a
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novel short 16 kDa isoform in the perilymph, named Cochlin-tomoprotein (CTP), corresponding to the N-terminus of full-length Cochlin (p63s) and the LCCL domain. Notably, CTP contains all of the known mutation sites associated with DFNA9. Our results on the formation and processing of these isoforms in the inner ear will be central to a better understanding of Cochlin function and its role in the pathophysiology of DFNA9. Furthermore, using above mentioned results, we are now performing a translational research to improve diagnosis and prognosis in patients with sensorineural hearing loss and vestibular disorders.

=> d ibib ed abs l10 2-3

L10 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2004:20713 CAPLUS Full-text
DOCUMENT NUMBER: 140:92586
TITLE: Antibody specific to cochlin N-terminal sequence for diagnosis of perilymphatic fistula
INVENTOR(S): Ikezono, Tetsuo; Yagi, Toshiaki; Omori, Akira
PATENT ASSIGNEE(S): Nippon Medical School Foundation, Japan
SOURCE: PCT Int. Appl., 65 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
WO 2004003020	A1	20040108	WO 2003-JP8123		20030626
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW					
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG					
AU 2003243985	A1	20040119	AU 2003-243985		20030626
JP 2004085552	A	20040318	JP 2003-182860		20030626
EP 1533319	A1	20050525	EP 2003-736265		20030626
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK					
CN 1665841	A	20050907	CN 2003-815172		20030626
US 20060246516	A1	20061102	US 2006-517778		20060414
PRIORITY APPLN. INFO.:			JP 2002-187479	A	20020627
			WO 2003-JP8123	W	20030626

ED Entered STN: 11 Jan 2004
AB It is intended to provide a method of conveniently and surely detecting a perilymphatic fistula at a low invasion degree for a patient. The method of detecting a perilymphatic fistula comprises detecting the existence of Cochlin in a body fluid in the middle ear. The method and test kit comprises antibody specific to cochlin N-terminal sequence.
REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 3 OF 3 MEDLINE on STN DUPLICATE 1

ACCESSION NUMBER: 2004033880 MEDLINE Full-text
DOCUMENT NUMBER: PubMed ID: 14733925
TITLE: Identification of a novel Cochlin isoform in the perilymph: insights to Cochlin function and the pathogenesis of DFNA9.
AUTHOR: Ikezono Tetsuo; Shindo Susumu; Li Lishu; Omori Akira; Ichinose Sachiyo; Watanabe Atsushi; Kobayashi Toshimitsu; Pawankar Ruby; Yagi Toshiaki
CORPORATE SOURCE: Department of Otorhinolaryngology, Nippon Medical School, Tokyo, Japan.. tikezono@nms.ac.jp
SOURCE: Biochemical and biophysical research communications, (2004 Feb 6) Vol. 314, No. 2, pp. 440-6.
Journal code: 0372516. ISSN: 0006-291X.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200403
ENTRY DATE: Entered STN: 22 Jan 2004
Last Updated on STN: 6 Mar 2004
Entered Medline: 5 Mar 2004
ED Entered STN: 22 Jan 2004
Last Updated on STN: 6 Mar 2004
Entered Medline: 5 Mar 2004
AB The COCH gene mutated in DFNA9, an autosomal dominant hereditary sensorineural hearing loss and vestibular disorder, encodes Cochlin. Previously, we reported three bovine Cochlin isoforms, p63s, p44s, and p40s, which exhibit significant molecular heterogeneity in vivo. Here we have characterized Cochlin isoforms by generating four isoform-specific anti-Cochlin antibodies. The same three Cochlin isoforms, p63s, p44s, and p40s, were detected in human and cow inner ear tissue; however, p44s and p40s were not detected in perilymph. We identified a novel short 16kDa isoform in human perilymph and a 18-23kDa isoform in cow perilymph, named Cochlin-tomoprotein (CTP), corresponding to the N-terminus of full-length Cochlin (p63s) and the LCCL domain. Notably, CTP contains all of the known mutation sites associated with DFNA9. The pathogenesis of DFNA9 is not fully clarified as yet, and this novel perilymph -associated CTP isoform might provide mechanistic clues to how mutations in the COCH gene damage the inner ear function.

=> s l7 AND l8
L11 28 L7 AND L8

=> dup rem l11
PROCESSING COMPLETED FOR L11
L12 13 DUP REM L11 (15 DUPLICATES REMOVED)

=> d ibib ed abs l12 1-13

L12 ANSWER 1 OF 13 MEDLINE on STN DUPLICATE 1
ACCESSION NUMBER: 2008183555 IN-PROCESS Full-text
DOCUMENT NUMBER: PubMed ID: 18304733
TITLE: Ultrastructural co-localization of cochlin and type II collagen in the rat semicircular canal.
AUTHOR: Mizuta Kunihiro; Ikezono Tetsuo; Iwasaki Satoshi; Arai Maki; Hashimoto Yasuyuki; Pawankar Ruby; Watanabe Takahiro; Shindo Susumu; Mineta Hiroyuki
CORPORATE SOURCE: Department of Otolaryngology, Hamamatsu University School of Medicine, 1-20-1 Handayama, Hamamatsu 431-3192, Japan.. mizuta@hama-med.ac.jp
SOURCE: Neuroscience letters, (2008 Mar 21) Vol. 434, No. 1, pp. 104-7.

Electronic Publication: 2008-01-20.
Journal code: 7600130. ISSN: 0304-3940.
PUB. COUNTRY: Ireland
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: NONMEDLINE; IN-PROCESS; NONINDEXED; Priority Journals
ENTRY DATE: Entered STN: 18 Mar 2008
Last Updated on STN: 24 Apr 2008
ED Entered STN: 18 Mar 2008
Last Updated on STN: 24 Apr 2008
AB Cochlin and type II collagen are major constituents of the inner ear extracellular matrix. To investigate the morphological relation of cochlin and type II collagen in the rat semicircular canal, immuno-electronmicroscopic analysis was performed using the post-embedding immunogold method. Immunolabeling for cochlin was detected in the fibrillar substance underlying the supporting epithelium of the sensory cells and beneath the epithelial cells facing the endolymph in the semicircular canals. Immunolabeling for type II collagen was observed in the same fibrillar substance in the subepithelial area. The co-localization of cochlin and type II collagen in the fibrillar substance in the subepithelial area indicate that cochlin may play a role in the structural homeostasis of the vestibule acting in concert with the fibrillar type II collagen bundles.

L12 ANSWER 2 OF 13 MEDLINE on STN DUPLICATE 2
ACCESSION NUMBER: 2006148467 MEDLINE Full-text
DOCUMENT NUMBER: PubMed ID: 16481359
TITLE: Cochlin immunostaining of inner ear pathologic deposits and proteomic analysis in DFNA9 deafness and vestibular dysfunction.
AUTHOR: Robertson Nahid G; Cremers Cor W R J; Huygen Patrick L M; Ikezono Tetsuo; Krastins Bryan; Kremer Hannie; Kuo Sharon F; Liberman M Charles; Merchant Saumil N; Miller Constance E; Nadol Joseph B Jr; Sarracino David A; Verhagen Wim I M; Morton Cynthia C
CORPORATE SOURCE: Department of Pathology, Brigham and Women's Hospital, Harvard Medical School, Boston, MA 02115, USA.
CONTRACT NUMBER: P30-05209 (United States NIDCD)
R01 DC000188-25 (United States NIDCD)
R01-DC0188 (United States NIDCD)
R01-DC03402
SOURCE: Human molecular genetics, (2006 Apr 1) Vol. 15, No. 7, pp. 1071-85. Electronic Publication: 2006-02-15.
Journal code: 9208958. ISSN: 0964-6906.
PUB. COUNTRY: England: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, N.I.H., EXTRAMURAL)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200609
ENTRY DATE: Entered STN: 16 Mar 2006
Last Updated on STN: 20 Sep 2006
Entered Medline: 19 Sep 2006
ED Entered STN: 16 Mar 2006
Last Updated on STN: 20 Sep 2006
Entered Medline: 19 Sep 2006
AB Seven missense mutations and one in-frame deletion mutation have been reported in the coagulation factor C homology (COCH) gene, causing the adult-onset, progressive sensorineural hearing loss and vestibular disorder at the DFNA9 locus. Prevalence of COCH mutations worldwide is unknown, as there is no

systematic screening effort for late-onset hearing disorders; however, to date, COCH mutations have been found on four continents and the possibility of COCH playing an important role in presbycusis and disorders of imbalance has been considered. Cochlin (encoded by COCH) has also been shown as a major target antigen for autoimmune sensorineural hearing loss. In this report, we present histopathology, immunohistochemistry and proteomic analyses of inner ear tissues from post-mortem DFNA9 temporal bone samples of an individual from a large Dutch kindred segregating the P51S mutation and adult human unaffected controls, and wild-type (+/+) and Coch null (-/-) knock-out mice. DFNA9 is an inner ear disorder with a unique histopathology showing loss of cellularity and aggregation of abundant homogeneous acellular eosinophilic deposits in the cochlear and vestibular labyrinths, similar to protein aggregation in well-known neurodegenerative disorders. By immunohistochemistry on the DFNA9 temporal bone sections, we have shown cochlin staining of the characteristic cochlear and vestibular deposits, indicating aggregation of cochlin in the same structures in which it is normally expressed. Proteomic analysis identified cochlin as the most abundant protein in mouse and human cochleae. The high-level expression and stability of cochlin in the inner ear, even in the absence and severe atrophy of the fibrocytes that normally express COCH, are shown through these studies and further elucidate the pathobiologic events occurring in DFNA9 leading to hearing loss and vestibular dysfunction.

L12 ANSWER 3 OF 13 MEDLINE on STN DUPLICATE 3
ACCESSION NUMBER: 2005685819 MEDLINE Full-text
DOCUMENT NUMBER: PubMed ID: 16374056
TITLE: Expression of cochlin in the vestibular organ of rats.
AUTHOR: Ikezono Tetsuo; Shindo Susumu; Ishizaki Masamichi; Li Lishu; Tomiyama Shunichi; Takumida Masaya; Pawankar Ruby; Watanabe Atsushi; Saito Akihiko; Yagi Toshiaki
CORPORATE SOURCE: Department of Otorhinolaryngology, Nippon Medical School, Tokyo, Japan.. tikezono@nms.ac.jp
SOURCE: ORL; journal for oto-rhino-laryngology and its related specialties, (2005) Vol. 67, No. 5, pp. 252-8.
Journal code: 0334721. ISSN: 0301-1569.
PUB. COUNTRY: Switzerland
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200608
ENTRY DATE: Entered STN: 24 Dec 2005
Last Updated on STN: 17 Aug 2006
Entered Medline: 16 Aug 2006
ED Entered STN: 24 Dec 2005
Last Updated on STN: 17 Aug 2006
Entered Medline: 16 Aug 2006
AB The COCH gene mutated in autosomal dominant sensorineural deafness (DFNA9) encodes cochlin, a major constituent of the inner ear extracellular matrix. Cochlin constitutes 70% of the inner ear protein and cochlin isoforms can be classified into three subgroups, p63s, p44s and p40s. Symptoms of some DFNA9 patients are consistent with those of Meniere's disease. Here, we report the expression of cochlin in the vestibular organ of rats using isoform-specific antibodies that recognize all three isoforms. Cochlin is highly expressed in the stromata of the maculae of otolithic organs and cristae of semicircular canals, and in the channels in the bony labyrinth that transmit the dendritic innervation to the cristae and maculae. Cochlin cannot be detected in the sensory cells, dark cells, nor in the acellular structures, otolithic membrane or in the cupula. These findings support the theory that deposition of

acidophilic substance in the inner ear caused by mutation of cochlin can induce a secondary retrograde dendritic degeneration of the vestibular nerves.

L12 ANSWER 4 OF 13 MEDLINE on STN DUPLICATE 4
ACCESSION NUMBER: 2005395003 MEDLINE Full-text
DOCUMENT NUMBER: PubMed ID: 15885953
TITLE: Expression of full-length Cochlin p63s is inner ear specific.
AUTHOR: Li Lishu; Ikezono Tetsuo; Watanabe Atsushi; Shindo Susumu; Pawankar Ruby; Yagi Toshiaki
CORPORATE SOURCE: Department of Otorhinolaryngology, Nippon Medical School, 1-1-5 Sendagi, Bunkyo-ku, Tokyo 113-8603, Japan.
SOURCE: Auris, nasus, larynx, (2005 Sep) Vol. 32, No. 3, pp. 219-23.
Journal code: 7708170. ISSN: 0385-8146.
PUB. COUNTRY: Netherlands
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200606
ENTRY DATE: Entered STN: 2 Aug 2005
Last Updated on STN: 30 Jun 2006
Entered Medline: 29 Jun 2006
ED Entered STN: 2 Aug 2005
Last Updated on STN: 30 Jun 2006
Entered Medline: 29 Jun 2006
AB OBJECTIVE: The COCH gene mutated in DFNA9, murine an autosomal dominant hereditary hearing impairment, encodes Cochlin. Cochlin is also suggested to be the self-antigen of autoimmune sensorineural hearing loss. We previously reported that Cochlin constitutes 70% of the inner ear proteins and is classified into three types of isoform, p63s, p44s, and p40s. To study the specificity of expression of Cochlin isoforms in various organs, here we have investigated expression of the COCH gene at both the transcriptional and translational level. METHODS: COCH gene expression was studied by RT-PCR and Southern blot analysis. Cochlin isoforms were studied by Western blot analysis using an isoform specific antibody. RESULTS: At the transcriptional level, COCH mRNA was detected only in the inner ear by RT-PCR. Southern blot analysis of RT-PCR products detected a high level of COCH mRNA in the inner ear, lower level in spleen, and very low levels in the cerebrum, cerebellum/brain stem, eye, liver and kidney. At the translational level, Western blot analysis showed that a set of isoform, p63s, p44s, and p40s was detected at high levels only in the inner ear. In contrast, multiple proteins were detected at much lower levels in other organs tested. Notably, full-length Cochlin p63s was detected only in the inner ear. CONCLUSION: Our findings demonstrate that the COCH gene is expressed preferentially in the inner ear and that expression of full-length Cochlin p63s is specific to the inner ear. These results will be central to understanding the function of Cochlin and its role in the pathophysiology of DFNA9.

L12 ANSWER 5 OF 13 EMBASE
ACCESSION NUMBER: 2005305489 EMBASE Full-text
TITLE: COCH gene and vertigo.
AUTHOR: Ikezono, Tetsuo
CORPORATE SOURCE: Department of Otorhinolaryngology, Nippon Medical School.
SOURCE: Equilibrium Research, (Feb 2005) Vol. 64, No. 1, pp. 1-11.
Refs: 24
ISSN: 0385-5716 CODEN: EQREDK
COUNTRY: Japan

DOCUMENT TYPE: Journal; Article
FILE SEGMENT: 011 Otorhinolaryngology
022 Human Genetics
029 Clinical and Experimental Biochemistry
005 General Pathology and Pathological Anatomy
LANGUAGE: Japanese
SUMMARY LANGUAGE: English
ENTRY DATE: Entered STN: 28 Jul 2005
Last Updated on STN: 28 Jul 2005
ED Entered STN: 28 Jul 2005
Last Updated on STN: 28 Jul 2005

AB We have performed a proteomic analysis of the inner ear proteins using 2D-GE. In the process of analysis, we have found very unique properties of the COCH gene product. The COCH gene mutated in DFNA9, an autosomal dominant hereditary sensorineural hearing loss and vestibular disorder, encodes cochlin. DFNA9 patients show symptoms such as episodes of vertigo, tinnitus, aural fullness and hearing loss. Clinically, these symptoms are consistent with the criteria for Meniere's disease. COCH is the only gene identified so far whose mutation leads to the symptoms of Meniere's disease in a significant portion of the carriers. We showed that Cochlin constitutes 70% of inner ear proteins, and identified three cochlin isoforms in the inner ear tissue, p63s, p44s and p40s, which exhibit significant molecular heterogeneity. Structure analysis of Cochlin isoforms showed that the mutations influence only the full-length isoform of Cochlin (p63s), and not the processed Cochlin isoforms (p44s and p40s), which do not contain the LCCL domain. What happens to the LCCL domain once it is cleaved from full-length Cochlin was an open issue. We further characterized the expression and structure of Cochlin isoforms by isoform-specific antibodies that recognize three distinct domains. Inner ear, as well as perilymph proteins were analyzed by western blot analysis. We have detected Cochlin isoforms in the inner ear tissue and we have identified a novel short 16 kDa isoform in the perilymph, named Cochlin-tomoprotein (CTP), corresponding to the N-terminus of full-length Cochlin (p63s) and the LCCL domain. Notably, CTP contains all of the known mutation sites associated with DFNA9. Our results on the formation and processing of these isoforms in the inner ear will be central to a better understanding of Cochlin function and its role in the pathophysiology of DFNA9. Furthermore, using above mentioned results, we are now performing a translational research to improve diagnosis and prognosis in patients with sensorineural hearing loss and vestibular disorders.

L12 ANSWER 6 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2004:20713 CAPLUS Full-text
DOCUMENT NUMBER: 140:92586
TITLE: Antibody specific to cochlin N-terminal sequence for diagnosis of perilymphatic fistula
INVENTOR(S): Ikezono, Tetsuo; Yagi, Toshiaki; Omori, Akira
PATENT ASSIGNEE(S): Nippon Medical School Foundation, Japan
SOURCE: PCT Int. Appl., 65 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004003020	A1	20040108	WO 2003-JP8123	20030626

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS,

KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

AU 2003243985	A1	20040119	AU 2003-243985	20030626
JP 2004085552	A	20040318	JP 2003-182860	20030626
EP 1533319	A1	20050525	EP 2003-736265	20030626

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK

CN 1665841	A	20050907	CN 2003-815172	20030626
US 20060246516	A1	20061102	US 2006-517778	20060414
PRIORITY APPLN. INFO.:			JP 2002-187479 A	20020627
			WO 2003-JP8123 W	20030626

ED Entered STN: 11 Jan 2004

AB It is intended to provide a method of conveniently and surely detecting a perilymphatic fistula at a low invasion degree for a patient. The method of detecting a perilymphatic fistula comprises detecting the existence of Cochlin in a body fluid in the middle ear. The method and test kit comprises antibody specific to cochlin N-terminal sequence.

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 7 OF 13 EMBASE

ACCESSION NUMBER: 2004508536 EMBASE Full-text
TITLE: A translational research - Inner ear proteomics, cochlin isoforms and its application to a novel diagnositic method.
AUTHOR: Ikezono, Tetsuo
SOURCE: Otolaryngology - Head and Neck Surgery (Tokyo), (2004) Vol. 76, No. 12, pp. 838-849.
Refs: 24
ISSN: 0914-3491 CODEN: JITGE2
COUNTRY: Japan
DOCUMENT TYPE: Journal; Article
FILE SEGMENT: 011 Otorhinolaryngology
029 Clinical and Experimental Biochemistry
LANGUAGE: Japanese
ENTRY DATE: Entered STN: 17 Dec 2004
Last Updated on STN: 17 Dec 2004
ED Entered STN: 17 Dec 2004
Last Updated on STN: 17 Dec 2004

L12 ANSWER 8 OF 13 MEDLINE on STN DUPLICATE 5
ACCESSION NUMBER: 2004033880 MEDLINE Full-text
DOCUMENT NUMBER: PubMed ID: 14733925
TITLE: Identification of a novel Cochlin isoform in the perilymph: insights to Cochlin function and the pathogenesis of DFNA9.
AUTHOR: Ikezono Tetsuo; Shindo Susumu; Li Lishu; Omori Akira; Ichinose Sachiyo; Watanabe Atsushi; Kobayashi Toshimitsu; Pawankar Ruby; Yagi Toshiaki
CORPORATE SOURCE: Department of Otorhinolaryngology, Nippon Medical School, Tokyo, Japan.. tikezono@nms.ac.jp
SOURCE: Biochemical and biophysical research communications, (2004 Feb 6) Vol. 314, No. 2, pp. 440-6.
Journal code: 0372516. ISSN: 0006-291X.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)

LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200403
ENTRY DATE: Entered STN: 22 Jan 2004
Last Updated on STN: 6 Mar 2004
Entered Medline: 5 Mar 2004
ED Entered STN: 22 Jan 2004
Last Updated on STN: 6 Mar 2004
Entered Medline: 5 Mar 2004
AB The COCH gene mutated in DFNA9, an autosomal dominant hereditary sensorineural hearing loss and vestibular disorder, encodes Cochlin. Previously, we reported three bovine Cochlin isoforms, p63s, p44s, and p40s, which exhibit significant molecular heterogeneity in vivo. Here we have characterized Cochlin isoforms by generating four isoform-specific anti-Cochlin antibodies. The same three Cochlin isoforms, p63s, p44s, and p40s, were detected in human and cow inner ear tissue; however, p44s and p40s were not detected in perilymph. We identified a novel short 16kDa isoform in human perilymph and a 18-23kDa isoform in cow perilymph, named Cochlin -tomoprotein (CTP), corresponding to the N-terminus of full-length Cochlin (p63s) and the LCCL domain. Notably, CTP contains all of the known mutation sites associated with DFNA9. The pathogenesis of DFNA9 is not fully clarified as yet, and this novel perilymph-associated CTP isoform might provide mechanistic clues to how mutations in the COCH gene damage the inner ear function.

L12 ANSWER 9 OF 13 BIOSIS COPYRIGHT (c) 2008 The Thomson Corporation on STN
ACCESSION NUMBER: 2003:192808 BIOSIS Full-text
DOCUMENT NUMBER: PREV200300192808
TITLE: Molecular basis of neuro-otology. A proteomic approach identifies the human COCHLIN isoforms.
AUTHOR(S): Ikezono, Tetsuo [Reprint Author]; Shindo, Susumu [Reprint Author]; Li, Lishu [Reprint Author]; Omori, Akira [Reprint Author]; Ichinose, Sachiyo [Reprint Author]; Watanabe, Atsushi [Reprint Author]; Kobayashi, Toshimitsu; Pawankar, Ruby; Yagi, Toshiaki
CORPORATE SOURCE: Tokyo, Japan
SOURCE: Neurology, (March 11 2003) Vol. 60, No. 5 Supplement 1, pp. A460. print.
Meeting Info.: 55th Annual Meeting of the American Academy of Neurology. Honolulu, Hawaii, USA. March 29-April 05, 2003.
ISSN: 0028-3878 (ISSN print).
DOCUMENT TYPE: Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)
LANGUAGE: English
ENTRY DATE: Entered STN: 16 Apr 2003
Last Updated on STN: 16 Apr 2003
ED Entered STN: 16 Apr 2003
Last Updated on STN: 16 Apr 2003

L12 ANSWER 10 OF 13 EMBASE COPYRIGHT (c) 2008 Elsevier B.V. All rights reserved on STN
ACCESSION NUMBER: 2003280156 EMBASE Full-text
TITLE: Meniere's disease and gene therapy.
AUTHOR: Ikezono, Tetsuo
SOURCE: Equilibrium Research, (Apr 2003) Vol. 62, No. 2, pp. 112-116.
Refs: 15
ISSN: 0385-5716 CODEN: EQREDK
COUNTRY: Japan
DOCUMENT TYPE: Journal; Conference Article; (Conference paper)
FILE SEGMENT: 011 Otorhinolaryngology
022 Human Genetics

LANGUAGE: Japanese
SUMMARY LANGUAGE: English; Japanese
ENTRY DATE: Entered STN: 31 Jul 2003
Last Updated on STN: 31 Jul 2003
ED Entered STN: 31 Jul 2003
Last Updated on STN: 31 Jul 2003
AB The use of viral vectors for inner ear gene therapy is limited by the promiscuous tropism of vectors and non-specificity of viral promoters. Tissue specific gene targeting will become possible via infection targeting and expression (transcription) targeting. In order to develop an new strategy for the treatment of Meniere's disease, inner ear-specific gene therapy is discussed. Proteomic analysis of inner ear protein was performed. Bovine inner ear tissues were subjected to 2-D gel electrophoresis. Among the 50 proteins that were determined by protein micro-sequencing and gene database search, the COCH gene was a good candidate for a gene that has inner ear expression property. Temporal and spacial expression pattern of the COCH gene was examined at the protein level. Rabbit polyclonal antibody was generated against a synthetic peptide corresponding to the Cochlin isoforms. Immunohistochemistry revealed steady expression of Cochlin throughout the development of the inner ear. Full length Cochlin was detected only in the inner ear among the 10 different organs tested by western blotting. The promoter and enhancer region of the COCH gene is being cloned. Unlike other hereditary deafness genes, COCH gene expression is highly specific for the inner ear. The promoter and enhancer of the COCH gene is useful for future gene therapy in inner ear disease. Inner ear specific gene delivery coupled with the medical applications of functional RNAs (ribozyme, RNA interference) will make it possible to treat hereditary hearing impairment, such as DFNA9.

L12 ANSWER 11 OF 13 MEDLINE on STN
ACCESSION NUMBER: 2002107352 MEDLINE Full-text
DOCUMENT NUMBER: PubMed ID: 11838183
TITLE: Menetriere's disease.
AUTHOR: Yagi Toshiaki
CORPORATE SOURCE: Department of Otolaryngology, Nippon Medical School.
SOURCE: Nippon rinsho. Japanese journal of clinical medicine, (2002 Jan) Vol. 60 Suppl 1, pp. 670-7. Ref: 9
Journal code: 0420546. ISSN: 0047-1852.
PUB. COUNTRY: Japan
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
LANGUAGE: Japanese
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200203
ENTRY DATE: Entered STN: 13 Feb 2002
Last Updated on STN: 17 Mar 2002
Entered Medline: 15 Mar 2002
ED Entered STN: 13 Feb 2002
Last Updated on STN: 17 Mar 2002
Entered Medline: 15 Mar 2002

L12 ANSWER 12 OF 13 EMBASE on STN
ACCESSION NUMBER: 2002159077 EMBASE Full-text
TITLE: Proteomic analysis of the vertigo and deafness gene, COCH.
AUTHOR: Ikezono, Tetsuo (correspondence)
CORPORATE SOURCE: Department of Otorhinolaryngology, Nippon Medical School, Nippon, Japan.
SOURCE: Equilibrium Research, (2002) Vol. 61, No. 1, pp. 47-53.
Refs: 10

ISSN: 0385-5716 CODEN: EQREDK
COUNTRY: Japan
DOCUMENT TYPE: Journal; Article
FILE SEGMENT: 011 Otorhinolaryngology
022 Human Genetics
LANGUAGE: Japanese
SUMMARY LANGUAGE: English; Japanese
ENTRY DATE: Entered STN: 16 May 2002
Last Updated on STN: 16 May 2002
ED Entered STN: 16 May 2002
Last Updated on STN: 16 May 2002

AB In recent years, due to the technological advances of molecular biology, many important findings are reported in the field of hereditary hearing impairment (HHI). Some of the HHI genes have been cloned and the mutations of those genes were identified. Much knowledge has accumulated about the HHI genes, however, little research has been done regarding the protein products of those genes. Two-dimensional gel electrophoresis and direct protein sequencing, together with searches in protein and DNA, EST databases, have accelerated the protein-identification process. The proteome is the expressed protein complement of a genome and proteomics is functional genomics at the protein level. To characterize deafness genes at the protein level as well as other inner ear proteins, we have performed a proteomic analysis of the inner ear proteins. In the process of analysis, we have found very unique properties of the protein product of a deafness gene, COCH . The COCH gene is responsible for one of the HHI, DFNA9. DFNA9 is the locus in humans reported to involve vestibular problems as part of the non-syndromic deafness phenotype. The primary pathologic change of the DFNA9 is a deposit of acid polymucosaccharide ground substance is the cribrose areas; in the spiral ligament, limbus, and spiral lamina of the cochlea; and in the stroma of the maculae and cristae. The end result is neuronal degeneration in association with varying degrees of atrophic change in the sense organs. Recently, it is suggested that missense mutation in the COCH gene might be related to the pathogenesis of Meniere's disease. Our results show that the protein product of the Coch gene constitutes 70% of inner ear proteins and is composed of 16 different protein spots with charge and size heterogeneity. Amino acid analysis of these spots identified 3 groups of isoforms of Coch protein (Cochlin), p63s, p44s and p40s. All 6 mutations found in DFNA9 patients are found in p63s, not in p44s and p40s. Heterogeneity of this protein suggests that the Coch gene is processed in several ways and may suggest that the Coch protein is very important in the inner ear function. Study of the Coch protein might provide more information on the mechanism of hearing and vestibular disorders.

L12 ANSWER 13 OF 13 MEDLINE on STN DUPLICATE 6
ACCESSION NUMBER: 2001189893 MEDLINE Full-text
DOCUMENT NUMBER: PubMed ID: 11278165
TITLE: Identification of the protein product of the Coch gene (hereditary deafness gene) as the major component of bovine inner ear protein.
AUTHOR: Ikezono T; Omori A; Ichinose S; Pawankar R; Watanabe A; Yagi T
CORPORATE SOURCE: Department of Otorhinolaryngology, Nippon Medical School, Tokyo, Japan.. tikezono@nms.ac.jp
SOURCE: Biochimica et biophysica acta, (2001 Mar 26) Vol. 1535, No. 3, pp. 258-65.
Journal code: 0217513. ISSN: 0006-3002.
PUB. COUNTRY: Netherlands
DOCUMENT TYPE: (COMPARATIVE STUDY)
Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: Priority Journals

ENTRY MONTH: 200105
ENTRY DATE: Entered STN: 21 May 2001
Last Updated on STN: 21 May 2001
Entered Medline: 17 May 2001
ED Entered STN: 21 May 2001
Last Updated on STN: 21 May 2001
Entered Medline: 17 May 2001
AB In order to better understand the cause of hereditary hearing impairment, we have performed a proteomic analysis of the inner ear proteins using two-dimensional gel electrophoresis. In the process of analysis, we have found very unique properties of the bovine homologue of the human COCH gene product. The COCH gene is responsible for one of the hereditary hearing impairments, DFNA9, and was recently suggested to be a possible genetic factor contributing to Meniere's disease. The Coch protein constitutes 70% of bovine inner ear proteins and is composed of 16 different protein spots, with charge and size heterogeneity. Heterogeneity of this protein suggests that the Coch gene is processed in several ways, at the transcriptional and/or posttranslational level. Much knowledge has accumulated about the hereditary hearing impairment genes; however, little research has been done regarding the protein products of those genes. This is the first report to characterize the Coch protein. Study of the Coch protein might provide more information on the mechanism of hearing and vestibular disorders.

=> d his

(FILE 'HOME' ENTERED AT 04:33:25 ON 01 JUN 2008)

FILE 'MEDLINE, BIOSIS, CAPLUS, EMBASE' ENTERED AT 04:33:40 ON 01 JUN 2008
E IKEZONO-T/AU
E IKEZONO T/AU
L1 123 S E3-E6
E YAGI T/AU
L2 2326 S E3-E4
E YAGI TOSH/AU
L3 275 S E7-E9
E OMORI A/AU
L4 205 S E3-E5
L5 1 S E9
E E12
L6 330 S E7-E8
L7 3205 S L1-L6
L8 2610 S (COCHLIN OR COCH OR DFNA9 OR DFNA31 OR COCH5B2 OR COCH-5B2 OR (COAGULATION(A)FACTOR(A)C(A)HOMOLOG))
L9 6 S L8(10A)PERILYMPH?
L10 3 DUP REM L9 (3 DUPLICATES REMOVED)
L11 28 S L7 AND L8
L12 13 DUP REM L11 (15 DUPLICATES REMOVED)

* * * * * * * * * * * * * * * * STN Columbus * * * * * * * * * * * * * * * * *

FILE 'HOME' ENTERED AT 13:06:31 ON 20 OCT 2008

FILE 'MEDLINE' ENTERED AT 13:06:42 ON 20 OCT 2008

FILE 'BIOSIS' ENTERED AT 13:06:42 ON 20 OCT 2008

FILE 'CAPLUS' ENTERED AT 13:06:42 ON 20 OCT 2008

FILE 'EMBASE' ENTERED AT 13:06:42 ON 20 OCT 2008

=> s (coch OR cochlin OR coch5b2 OR coch-5b2 OR aw122937 OR dfna9 OR dfna31 OR dfna-9 OR dfna-31)(20a)(perilymph? OR (inner(a)ear))
L1 93 (COCH OR COCHLIN OR COCH5B2 OR COCH-5B2 OR AW122937 OR DFNA9 OR DFNA31 OR DFNA-9 OR DFNA-31)(20A)(PERILYMPH? OR (INNER(A) EAR))

=>

=> dup rem l1
PROCESSING COMPLETED FOR L1
L2 37 DUP REM L1 (56 DUPLICATES REMOVED)

=> d ibib ed abs l2 1-37

L2 ANSWER 1 OF 37 MEDLINE on STN DUPLICATE 1
ACCESSION NUMBER: 2008604667 IN-PROCESS Full-text
DOCUMENT NUMBER: PubMed ID: 18706483
TITLE: Spatiotemporal expression of Cochlin in the inner ear of rats during postnatal development.
AUTHOR: Shindo Susumu; Ikezono Tetsuo; Ishizaki Masamichi; Sekiguchi Satomi; Mizuta Kunihiro; Li Lishu; Takumida Masaya; Pawankar Ruby; Yagi Toshiaki
CORPORATE SOURCE: Department of Otorhinolaryngology, Nippon Medical School, Tokyo 113-8603, Japan.
SOURCE: Neuroscience letters, (2008 Oct 24) Vol. 444, No. 2, pp. 148-52. Electronic Publication: 2008-08-06.
Journal code: 7600130. ISSN: 0304-3940.
PUB. COUNTRY: Ireland
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: NONMEDLINE; IN-DATA-REVIEW; IN-PROCESS; NONINDEXED; Priority Journals
ENTRY DATE: Entered STN: 17 Sep 2008
Last Updated on STN: 17 Sep 2008
ED Entered STN: 17 Sep 2008
Last Updated on STN: 17 Sep 2008
AB Cochlin (encoded by COCH) constitutes 70% of non-collagenous protein in the inner ear, and the expression of cochlin is highly specific to the inner ear. Eleven missense mutation and one in-frame deletion have been reported in the COCH gene, causing hereditary progressive sensorineural hearing loss and vestibular dysfunction, DFNA9. These data imply that cochlin should bear an essential and crucial role in the inner ear function. However, the role of cochlin has not been fully clarified. We have investigated the spatiotemporal expression of cochlin in the inner ear of rats during postnatal development to better understand the functional role of cochlin. By immunohistochemistry, cochlin expression was faint in the cochlea and vestibule on the 6th day after birth (DAB6). At DAB70, strong expression of cochlin was detected in the spiral limbus and spiral ligament within the cochlea, and in the stromata of the maculae of otolithic organs and crista ampullaris within the vestibule. Immunoreactivity for cochlin increased during the postnatal development. Western blot analysis also showed an increase in the expression of cochlin isoforms. Furthermore, the dominant isoform of cochlin expressed changed from

p63s to p40s between DAB24 and DAB70. These results suggest that the expression of cochlin may be related to the maturation of inner ear function, and the change in isoforms of cochlin expressed will provide important insight into the understanding of both cochlin function and formation of cochlin isoforms. This is the first to report about the spatiotemporal expression of cochlin in the developing rat inner ear.

L2 ANSWER 2 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2008:776969 CAPLUS Full-text
DOCUMENT NUMBER: 149:243809
TITLE: Recovery of inner ear specific protein based on proteome profiling
AUTHOR(S): Tomiyama, Shunichi
CORPORATE SOURCE: Dep. Otorhinolaryngol., Tama-nagayama Hosp., Nippon Medical School, Japan
SOURCE: Otology Japan (2008), 18(2), 105-112
CODEN: OTJAEW; ISSN: 0917-2025
PUBLISHER: Nippon Jika Gakkai
DOCUMENT TYPE: Journal
LANGUAGE: Japanese
ED Entered STN: 27 Jun 2008
AB To establish exptl. inner ear specific autoimmune labyrinthitis in mice, the present study was designed to recover inner ear specific proteins from crude inner ear proteins by SDS-PAGE technique and proteome profiling. Thirty partitioned inner ear proteins according to mol. size were harvested through elution of crude inner ear antigens on Whole Gel Eluter. Serum from mice sensitized with 19 out of 30 partitions produced antibodies against bovine inner ear proteins by western blotting and 7 pos. different bands were recognized. Proteome profiling of the several partitions that demonstrated clear pos. bands were selectively carried out. Partition number 3, 10 and 11 hit only COCH protein. Partition number 5 and 8 hit COCH protein together with non specific inner ear proteins. Partition number 18, 22 and 24 hit non specific inner ear proteins. The present study succeeded in isolation of inner ear specific proteins, suggesting that development of inner ear specific autoimmune animal model is possible to elucidate pathogenesis of autoimmune inner ear disease.

L2 ANSWER 3 OF 37 MEDLINE on STN DUPLICATE 2
ACCESSION NUMBER: 2008183555 MEDLINE Full-text
DOCUMENT NUMBER: PubMed ID: 18304733
TITLE: Ultrastructural co-localization of cochlin and type II collagen in the rat semicircular canal.
AUTHOR: Mizuta Kunihiro; Ikezono Tetsuo; Iwasaki Satoshi; Arai Maki; Hashimoto Yasuyuki; Pawankar Ruby; Watanabe Takahiro; Shindo Susumu; Mineta Hiroyuki
CORPORATE SOURCE: Department of Otolaryngology, Hamamatsu University School of Medicine, 1-20-1 Handayama, Hamamatsu 431-3192, Japan.. mizuta@hama-med.ac.jp
SOURCE: Neuroscience letters, (2008 Mar 21) Vol. 434, No. 1, pp. 104-7. Electronic Publication: 2008-01-20.
Journal code: 7600130. ISSN: 0304-3940.
PUB. COUNTRY: Ireland
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200807
ENTRY DATE: Entered STN: 18 Mar 2008
Last Updated on STN: 4 Jul 2008
Entered Medline: 3 Jul 2008

ED Entered STN: 18 Mar 2008
Last Updated on STN: 4 Jul 2008
Entered Medline: 3 Jul 2008

AB Cochlin and type II collagen are major constituents of the inner ear extracellular matrix. To investigate the morphological relation of cochlin and type II collagen in the rat semicircular canal, immuno-electronmicroscopic analysis was performed using the post-embedding immunogold method. Immunolabeling for cochlin was detected in the fibrillar substance underlying the supporting epithelium of the sensory cells and beneath the epithelial cells facing the endolymph in the semicircular canals. Immunolabeling for type II collagen was observed in the same fibrillar substance in the subepithelial area. The co-localization of cochlin and type II collagen in the fibrillar substance in the subepithelial area indicate that cochlin may play a role in the structural homeostasis of the vestibule acting in concert with the fibrillar type II collagen bundles.

L2 ANSWER 4 OF 37 MEDLINE on STN DUPLICATE 3
ACCESSION NUMBER: 2007502803 MEDLINE Full-text
DOCUMENT NUMBER: PubMed ID: 17662637
TITLE: Cochlin in the eye: functional implications.
AUTHOR: Picciani Renata; Desai Kavita; Guduric-Fuchs Jasenka; Cogliati Tiziana; Morton Cynthia C; Bhattacharya Sanjoy K
CORPORATE SOURCE: Bascom Palmer Eye Institute, University of Miami, Miami, FL 33136, USA.
CONTRACT NUMBER: EY15266 (United States NEI)
EY16112 (United States NEI)
P30 EY014801 (United States NEI)
R01 EY016112-01A2 (United States NEI)
R01 EY016112-02 (United States NEI)
R03 EY015266-01A2 (United States NEI)
R03 EY015266-02 (United States NEI)
R03 EY015266-03 (United States NEI)
R03 EY015266-04 (United States NEI)
SOURCE: Progress in retinal and eye research, (2007 Sep) Vol. 26, No. 5, pp. 453-69. Electronic Publication: 2007-06-22. Ref: 124
Journal code: 9431859. ISSN: 1350-9462.
PUB. COUNTRY: England: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, N.I.H., EXTRAMURAL)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
General Review; (REVIEW)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200712
ENTRY DATE: Entered STN: 29 Aug 2007
Last Updated on STN: 11 Dec 2007
Entered Medline: 10 Dec 2007

ED Entered STN: 29 Aug 2007
Last Updated on STN: 11 Dec 2007
Entered Medline: 10 Dec 2007

AB Aqueous humor is actively produced in the ciliary epithelium of the anterior chamber and has important functions for the eye. Under normal physiological conditions, the inflow and outflow of the aqueous humor are tightly regulated, but in the pathologic state this balance is lost. Aqueous outflow involves structures of the anterior chamber and experiences most resistance at the level of the trabecular meshwork (TM) that acts as a filter. The modulation of the TM structure regulates the filter and its mechanism remains poorly understood. Proteomic analyses have identified cochlin, a protein of poorly understood function, in the glaucomatous TM but not in healthy control TM from

human cadaver eyes. The presence of cochlin has subsequently been confirmed by Western and immunohistochemical analyses. Functionally, cochlin undergoes multimerization induced by shear stress and other changes in the microenvironment. Cochlin along with mucopolysaccharide deposits has been found in the TM of glaucoma patients and in the inner ear of subjects affected by the hearing disorder DNFA9, a late-onset, progressive disease that also involves alterations in fluid shear regimes. In vitro, cochlin induces aggregation of primary TM cells suggesting a role in cell adhesion, possibly in mechanosensation, and in modulation of the TM filter.

L2 ANSWER 5 OF 37 MEDLINE on STN DUPLICATE 4
ACCESSION NUMBER: 2007650069 MEDLINE Full-text
DOCUMENT NUMBER: PubMed ID: 17926100
TITLE: Cochlin isoforms and their interaction with CTL2 (SLC44A2) in the inner ear.
AUTHOR: Kommareddi P K; Nair T S; Raphael Y; Telian S A; Kim A H; Arts H A; El-Kashlan H K; Carey T E
CORPORATE SOURCE: Immunology and Cell Biology Laboratory, 6020 Kresge Hearing Research Institute, Department of Otolaryngology/Head and Neck Surgery, The University of Michigan, 1301 East Ann Street, Ann Arbor, MI 48109-0506, USA.
CONTRACT NUMBER: 1P30 AR048310 (United States NIAMS)
P30 DC05188 (United States NIDCD)
R01 DC03686 (United States NIDCD)
T32 DC00011 (United States NIDCD)
SOURCE: Journal of the Association for Research in Otolaryngology : JARO, (2007 Dec) Vol. 8, No. 4, pp. 435-46. Electronic Publication: 2007-10-10.
Journal code: 100892857. ISSN: 1525-3961.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, N.I.H., EXTRAMURAL)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200801
ENTRY DATE: Entered STN: 4 Nov 2007
Last Updated on STN: 30 Jan 2008
Entered Medline: 29 Jan 2008
ED Entered STN: 4 Nov 2007
Last Updated on STN: 30 Jan 2008
Entered Medline: 29 Jan 2008
AB Choline transporter-like protein 2 (CTL2) is a multi-transmembrane protein expressed on inner ear supporting cells that was discovered as a target of antibody-induced hearing loss. Its function is unknown. A 64 kDa band that consistently co-precipitates with CTL2 from inner ear extracts was identified by mass spectroscopy as cochlin. Cochlin is an abundant inner ear protein expressed as multiple isoforms. Its function is also unknown, but it is suspected to be an extracellular matrix component. Cochlin is mutated in individuals with DFNA9 hearing loss. To investigate the CTL2-cochlin interaction, antibodies were raised to a cochlin-specific peptide. The antibodies identify several cochlin polypeptides on western blots and are specific for cochlin. We show that the heterogeneity of the cochlin isoforms is caused, in part, by in vivo post-translational modification by N-glycosylation and, in part, caused by alternative splicing. We verified that antibody to CTL2 co-immunoprecipitates cochlin from the inner ear and antibody to cochlin co-immunoprecipitates CTL2. Using cochlear cross-sections, we show that CTL2 is more widely distributed than previously described, and its prominent expression on cells facing the scala media suggests a possible role in homeostasis. A prominent but previously unreported ribbon-like pattern of cochlin in the basilar membrane was demonstrated, suggesting an important role

for cochlin in the structure of the basilar membrane. CTL2 and cochlin are expressed in close proximity in the inner sulcus, the spiral prominence, vessels, limbus, and spiral ligament. The possible functional significance of CTL2-cochlin interactions remains unknown.

L2 ANSWER 6 OF 37 BIOSIS COPYRIGHT (c) 2008 The Thomson Corporation on STN
ACCESSION NUMBER: 2006:398510 BIOSIS Full-text
DOCUMENT NUMBER: PREV200600398824
TITLE: Compositions to detect lesions associated with hearing loss in the cochlear gene, COCH5B2.
AUTHOR(S): Morton, Cynthia C. [Inventor]; Robertson, Nahid [Inventor]
CORPORATE SOURCE: Newton Ctr, MA USA
ASSIGNEE: The Brigham and Women's Hospital, Inc.
PATENT INFORMATION: US 07030235 20060418
SOURCE: Official Gazette of the United States Patent and Trademark Office Patents, (APR 18 2006)
CODEN: OGUPE7. ISSN: 0098-1133.
DOCUMENT TYPE: Patent
LANGUAGE: English
ENTRY DATE: Entered STN: 9 Aug 2006
Last Updated on STN: 9 Aug 2006
ED Entered STN: 9 Aug 2006
Last Updated on STN: 9 Aug 2006
AB The invention provides isolated nucleic acids molecules, designated COCH5B2 nucleic acid molecules, which encode polypeptides involved in inner ear biology. The invention also provides antisense nucleic acid molecules, expression vectors containing COCH5b2 nucleic acid molecules, host cells into which the expression vectors have been introduced, and non-human transgenic animals in which a COCH5b2 gene has been introduced or disrupted. The invention still further provides isolated COCH5B2 polypeptides, fusion polypeptides, antigenic peptides, and anti-COCH5B2 antibodies. Diagnostic, screening, and therapeutic methods utilizing compositions of the invention are also provided.

L2 ANSWER 7 OF 37 MEDLINE on STN DUPLICATE 5
ACCESSION NUMBER: 2006526116 MEDLINE Full-text
DOCUMENT NUMBER: PubMed ID: 16951386
TITLE: Increased frequencies of cochlin-specific T cells in patients with autoimmune sensorineural hearing loss.
AUTHOR: Baek Moo-Jin; Park Hyun-Min; Johnson Justin M; Altuntas Cengiz Z; Jane-Wit Daniel; Jaini Ritika; Solares C Arturo; Thomas Dawn M; Ball Edward J; Robertson Nahid G; Morton Cynthia C; Hughes Gordon B; Tuohy Vincent K
CORPORATE SOURCE: Department of Immunology, Lerner Research Institute, Cleveland Clinic, Cleveland, OH 44195, USA.
CONTRACT NUMBER: DC-003402 (United States NIDCD)
DC-006422 (United States NIDCD)
SOURCE: Journal of immunology (Baltimore, Md. : 1950), (2006 Sep 15) Vol. 177, No. 6, pp. 4203-10.
Journal code: 2985117R. ISSN: 0022-1767.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, N.I.H., EXTRAMURAL)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: Abridged Index Medicus Journals; Priority Journals
ENTRY MONTH: 200610
ENTRY DATE: Entered STN: 6 Sep 2006
Last Updated on STN: 24 Oct 2006

Entered Medline: 24 Oct 2006
ED Entered STN: 6 Sep 2006
Last Updated on STN: 24 Oct 2006
Entered Medline: 24 Oct 2006
AB Autoimmune sensorineural hearing loss (ASNHL) is the most common cause of sudden hearing loss in adults. Although autoimmune etiopathogenic events have long been suspected in ASNHL, inner ear-specific Ags capable of targeting T cell autoreactivity have not been identified in ASNHL. In this study, we show by ELISPOT analysis that compared with normal hearing age- and sex-matched control subjects, ASNHL patients have significantly higher frequencies of circulating T cells producing either IFN-gamma ($p = 0.0001$) or IL-5 ($p = 0.03$) in response to recombinant human cochlin, the most abundant inner ear protein. In some patients, cochlin responsiveness involved both CD4+ and CD8+ T cells whereas other patients showed cochlin responsiveness confined to CD8+ T cells. ASNHL patients also showed significantly elevated cochlin-specific serum Ab titers compared with both normal hearing age- and sex-matched control subjects and patients with noise- and/or age-related hearing loss ($p < 0.05$ at all dilutions tested through 1/2048). Our study is the first to show T cell responsiveness to an inner ear-specific protein in ASNHL patients, and implicates cochlin as a prominent target Ag for mediating autoimmune inner ear inflammation and hearing loss.

L2 ANSWER 8 OF 37 MEDLINE on STN DUPLICATE 6
ACCESSION NUMBER: 2006148467 MEDLINE Full-text
DOCUMENT NUMBER: PubMed ID: 16481359
TITLE: Cochlin immunostaining of inner ear pathologic deposits and proteomic analysis in DFNA9 deafness and vestibular dysfunction.
AUTHOR: Robertson Nahid G; Cremers Cor W R J; Huygen Patrick L M; Ikezono Tetsuo; Krastins Bryan; Kremer Hannie; Kuo Sharon F; Liberman M Charles; Merchant Saumil N; Miller Constance E; Nadol Joseph B Jr; Sarracino David A; Verhagen Wim
I M; Morton Cynthia C
CORPORATE SOURCE: Department of Pathology, Brigham and Women's Hospital, Harvard Medical School, Boston, MA 02115, USA.
CONTRACT NUMBER: P30-05209 (United States NIDCD)
R01 DC000188-25 (United States NIDCD)
R01-DC0188 (United States NIDCD)
R01-DC03402
SOURCE: Human molecular genetics, (2006 Apr 1) Vol. 15, No. 7, pp. 1071-85. Electronic Publication: 2006-02-15.
Journal code: 9208958. ISSN: 0964-6906.
PUB. COUNTRY: England: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, N.I.H., EXTRAMURAL)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200609
ENTRY DATE: Entered STN: 16 Mar 2006
Last Updated on STN: 20 Sep 2006
Entered Medline: 19 Sep 2006
ED Entered STN: 16 Mar 2006
Last Updated on STN: 20 Sep 2006
Entered Medline: 19 Sep 2006
AB Seven missense mutations and one in-frame deletion mutation have been reported in the coagulation factor C homology (COCH) gene, causing the adult-onset, progressive sensorineural hearing loss and vestibular disorder at the DFNA9 locus. Prevalence of COCH mutations worldwide is unknown, as there is no systematic screening effort for late-onset hearing disorders; however, to

date, COCH mutations have been found on four continents and the possibility of COCH playing an important role in presbycusis and disorders of imbalance has been considered. Cochlin (encoded by COCH) has also been shown as a major target antigen for autoimmune sensorineural hearing loss. In this report, we present histopathology, immunohistochemistry and proteomic analyses of inner ear tissues from post-mortem DFNA9 temporal bone samples of an individual from a large Dutch kindred segregating the P51S mutation and adult human unaffected controls, and wild-type (+/+) and Coch null (-/-) knock-out mice. DFNA9 is an inner ear disorder with a unique histopathology showing loss of cellularity and aggregation of abundant homogeneous acellular eosinophilic deposits in the cochlear and vestibular labyrinths, similar to protein aggregation in well-known neurodegenerative disorders. By immunohistochemistry on the DFNA9 temporal bone sections, we have shown cochlin staining of the characteristic cochlear and vestibular deposits, indicating aggregation of cochlin in the same structures in which it is normally expressed. Proteomic analysis identified cochlin as the most abundant protein in mouse and human cochleae. The high-level expression and stability of cochlin in the inner ear, even in the absence and severe atrophy of the fibrocytes that normally express COCH, are shown through these studies and further elucidate the pathobiologic events occurring in DFNA9 leading to hearing loss and vestibular dysfunction.

L2 ANSWER 9 OF 37 MEDLINE on STN DUPLICATE 7
ACCESSION NUMBER: 2006666087 MEDLINE Full-text
DOCUMENT NUMBER: PubMed ID: 17100761
TITLE: Antibody reactivity to heat shock protein 70 and inner ear-specific proteins in patients with idiopathic sensorineural hearing loss.
AUTHOR: Tebo A E; Szankasi P; Hillman T A; Litwin C M; Hill H R
CORPORATE SOURCE: Department of Pathology, University of Utah School of Medicine, Salt Lake City, Utah, USA.. anne.tebo@aruplab.com
SOURCE: Clinical and experimental immunology, (2006 Dec) Vol. 146, No. 3, pp. 427-32.
Journal code: 0057202. ISSN: 0009-9104.
PUB. COUNTRY: England: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200702
ENTRY DATE: Entered STN: 15 Nov 2006
Last Updated on STN: 21 Feb 2007
Entered Medline: 20 Feb 2007
ED Entered STN: 15 Nov 2006
Last Updated on STN: 21 Feb 2007
Entered Medline: 20 Feb 2007
AB Deafness is attributable to autoimmunity in a subset of adult patients with sensorineural hearing loss (SNHL) of unknown aetiology. To determine the roles of self-antigens in the pathogenesis of idiopathic SNHL, we analysed antibody responses to the inner ear-specific proteins, cochlin and beta-tectorin as well as the non-specific heat shock protein 70 (HSP70). Recombinant cochlin and beta-tectorin proteins were used in a qualitative Western blot assay for the detection of antigen-specific IgG antibodies in 58 patients with idiopathic SNHL and 28 healthy blood donors. In the same study cohort, we also used a Western blot assay to assess IgG antibody responses to the recombinant human HSP70. Of the 58 patient samples analysed, 19 tested positive to the HSP70, eight to cochlin and one to beta-tectorin, giving a prevalence of 33, 14 and 2%, respectively. Only one patient sample was reactive for HSP70, cochlin and beta-tectorin, seven of the remaining eight cochlin IgG antibody-positive samples were monospecific. Thus, cochlin-specific antibodies were observed predominantly in HSP70 IgG-negative patients

demonstrating an additive value for testing this antibody response in patients with idiopathic SNHL.

L2 ANSWER 10 OF 37 MEDLINE on STN DUPLICATE 8
ACCESSION NUMBER: 2005668300 MEDLINE Full-text
DOCUMENT NUMBER: PubMed ID: 16355574
TITLE: [From gene to disease; a progressive cochlear-vestibular dysfunction with onset in middle-age (DFNA9)].
Van gen naar ziekte; een op middelbare leeftijd optredende progressieve cochleavestibulaire disfunctie (DFNA9).
AUTHOR: Cremers C W R; Kemperman M H; Bom S J H; Huygen P L M; Verhagen W I M; Kremer J M J
CORPORATE SOURCE: Universitair Medisch Centrum St Radboud, kliniek voor Keel-, Neus- en Oorheelkunde, Posts 9101, 6500 HB Nijmegen.. c.cremers@kno.umcn.nl
SOURCE: Nederlands tijdschrift voor geneeskunde, (2005 Nov 19) Vol. 149, No. 47, pp. 2619-21. Ref: 26
Journal code: 0400770. ISSN: 0028-2162.
PUB. COUNTRY: Netherlands
DOCUMENT TYPE: (ENGLISH ABSTRACT)
Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
LANGUAGE: Dutch
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200601
ENTRY DATE: Entered STN: 20 Dec 2005
Last Updated on STN: 11 Jan 2006
Entered Medline: 10 Jan 2006
ED Entered STN: 20 Dec 2005
Last Updated on STN: 11 Jan 2006
Entered Medline: 10 Jan 2006
AB DFNA9 is an autosomal dominant genetic inner-ear hearing impairment that starts to show itself in the 3rd and 4th decades of life. This hearing impairment may be of a different degree of severity in each ear. Progression of hearing loss is about 3 dB/year. In about one in three patients severe vestibular symptoms similar to those in Meniere's disease are present as a result of a progressive impairment of the vestibular system. Several mutations were found in the COCH-gene on chromosome 14. There are indications that some of the mutations disrupt the folding of the cochlin protein, an important component of the extracellular matrix in the inner ear. DNA-diagnostics confirming the diagnosis ofDFNA9 are possible.

L2 ANSWER 11 OF 37 MEDLINE on STN DUPLICATE 9
ACCESSION NUMBER: 2005685819 MEDLINE Full-text
DOCUMENT NUMBER: PubMed ID: 16374056
TITLE: Expression of cochlin in the vestibular organ of rats.
AUTHOR: Ikezono Tetsuo; Shindo Susumu; Ishizaki Masamichi; Li Lishu; Tomiyama Shunichi; Takumida Masaya; Pawankar Ruby; Watanabe Atsushi; Saito Akihiko; Yagi Toshiaki
CORPORATE SOURCE: Department of Otorhinolaryngology, Nippon Medical School, Tokyo, Japan.. tikezono@nms.ac.jp
SOURCE: ORL; journal for oto-rhino-laryngology and its related specialties, (2005) Vol. 67, No. 5, pp. 252-8.
Journal code: 0334721. ISSN: 0301-1569.
PUB. COUNTRY: Switzerland
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: Priority Journals

ENTRY MONTH: 200608
ENTRY DATE: Entered STN: 24 Dec 2005
Last Updated on STN: 17 Aug 2006
Entered Medline: 16 Aug 2006
ED Entered STN: 24 Dec 2005
Last Updated on STN: 17 Aug 2006
Entered Medline: 16 Aug 2006
AB The COCH gene mutated in autosomal dominant sensorineural deafness (DFNA9) encodes cochlin, a major constituent of the inner ear extracellular matrix. Cochlin constitutes 70% of the inner ear protein and cochlin isoforms can be classified into three subgroups, p63s, p44s and p40s. Symptoms of some DFNA9 patients are consistent with those of Meniere's disease. Here, we report the expression of cochlin in the vestibular organ of rats using isoform-specific antibodies that recognize all three isoforms. Cochlin is highly expressed in the stromata of the maculae of otolithic organs and cristae of semicircular canals, and in the channels in the bony labyrinth that transmit the dendritic innervation to the cristae and maculae. Cochlin cannot be detected in the sensory cells, dark cells, nor in the acellular structures, otolithic membrane or in the cupula. These findings support the theory that deposition of acidophilic substance in the inner ear caused by mutation of cochlin can induce a secondary retrograde dendritic degeneration of the vestibular nerves.

L2 ANSWER 12 OF 37 MEDLINE on STN DUPLICATE 10
ACCESSION NUMBER: 2005395003 MEDLINE Full-text
DOCUMENT NUMBER: PubMed ID: 15885953
TITLE: Expression of full-length Cochlin p63s is inner ear specific.
AUTHOR: Li Lishu; Ikezono Tetsuo; Watanabe Atsushi; Shindo Susumu; Pawankar Ruby; Yagi Toshiaki
CORPORATE SOURCE: Department of Otorhinolaryngology, Nippon Medical School, 1-1-5 Sendagi, Bunkyo-ku, Tokyo 113-8603, Japan.
SOURCE: Auris, nasus, larynx, (2005 Sep) Vol. 32, No. 3, pp. 219-23.
Journal code: 7708170. ISSN: 0385-8146.
PUB. COUNTRY: Netherlands
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200606
ENTRY DATE: Entered STN: 2 Aug 2005
Last Updated on STN: 30 Jun 2006
Entered Medline: 29 Jun 2006
ED Entered STN: 2 Aug 2005
Last Updated on STN: 30 Jun 2006
Entered Medline: 29 Jun 2006
AB OBJECTIVE: The COCH gene mutated in DFNA9, murine an autosomal dominant hereditary hearing impairment, encodes Cochlin. Cochlin is also suggested to be the self-antigen of autoimmune sensorineural hearing loss. We previously reported that Cochlin constitutes 70% of the inner ear proteins and is classified into three types of isoform, p63s, p44s, and p40s. To study the specificity of expression of Cochlin isoforms in various organs, here we have investigated expression of the COCH gene at both the transcriptional and translational level. METHODS: COCH gene expression was studied by RT-PCR and Southern blot analysis. Cochlin isoforms were studied by Western blot analysis using an isoform specific antibody. RESULTS: At the transcriptional level, COCH mRNA was detected only in the inner ear by RT-PCR. Southern blot analysis of RT-PCR products detected a high level of COCH mRNA in the inner ear, lower level in spleen, and very low levels in the cerebrum, cerebellum/brain stem, eye, liver and kidney. At the translational level, Western blot analysis showed that a set of isoform, p63s, p44s, and p40s was

detected at high levels only in the inner ear. In contrast, multiple proteins were detected at much lower levels in other organs tested. Notably, full-length Cochlin p63s was detected only in the inner ear. CONCLUSION: Our findings demonstrate that the COCH gene is expressed preferentially in the inner ear and that expression of full-length Cochlin p63s is specific to the inner ear. These results will be central to understanding the function of Cochlin and its role in the pathophysiology of DFNA9.

L2 ANSWER 13 OF 37 MEDLINE on STN DUPLICATE 11
ACCESSION NUMBER: 2005644950 MEDLINE Full-text
DOCUMENT NUMBER: PubMed ID: 16078052
TITLE: Targeted disruption of mouse Coch provides functional evidence that DFNA9 hearing loss is not a COCH haploinsufficiency disorder.
AUTHOR: Makishima Tomoko; Rodriguez Clara I; Robertson Nahid G; Morton Cynthia C; Stewart Colin L; Griffith Andrew J
CORPORATE SOURCE: Section on Gene Structure and Function, National Institute on Deafness and Other Communication Disorders, National Institutes of Health, Rockville, MD 20850, USA.
CONTRACT NUMBER: DC03402 (United States NIDCD)
Z01-DC-000060-03 (United States NIDCD)
SOURCE: Human genetics, (2005 Oct) Vol. 118, No. 1, pp. 29-34. Electronic Publication: 2005-10-28.
Journal code: 7613873. ISSN: 0340-6717.
PUB. COUNTRY: Germany: Germany, Federal Republic of
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, N.I.H., EXTRAMURAL)
(RESEARCH SUPPORT, N.I.H., INTRAMURAL)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200606
ENTRY DATE: Entered STN: 6 Dec 2005
Last Updated on STN: 7 Jun 2006
Entered Medline: 6 Jun 2006
ED Entered STN: 6 Dec 2005
Last Updated on STN: 7 Jun 2006
Entered Medline: 6 Jun 2006
AB Dominant progressive hearing loss and vestibular dysfunction DFNA9 is caused by mutations of the human COCH gene. COCH encodes cochlin, a highly abundant secreted protein of unknown function in the inner ear. Cochlin has an N-terminal LCCL domain followed by two vWA domains, and all known DFNA9 mutations are either missense substitutions or an amino acid deletion in the LCCL domain. Here, we have characterized the auditory phenotype associated with a genomic deletion of mouse Coch downstream of the LCCL domain. Homozygous Coch (-/-) mice express no detectable cochlin in the inner ear. Auditory brainstem responses to click and pure-tone stimuli (8, 16, 32 kHz) were indistinguishable among wild type and homozygous Coch (-/-) mice. A Coch-LacZDeltaneo reporter allele detected Coch mRNA expression in nonsensory epithelial and stromal regions of the cochlea and vestibular labyrinth. These data provide functional evidence that DFNA9 is probably not caused by COCH haploinsufficiency, but via a dominant negative or gain-of-function effect, in nonsensory regions of the inner ear.

L2 ANSWER 14 OF 37 EMBASE on STN
ACCESSION NUMBER: 2005305489 EMBASE Full-text
TITLE: COCH gene and vertigo.
AUTHOR: Ikezono, Tetsuo

CORPORATE SOURCE: Department of Otorhinolaryngology, Nippon Medical School.
SOURCE: Equilibrium Research, (Feb 2005) Vol. 64, No. 1, pp. 1-11.
Refs: 24
ISSN: 0385-5716 CODEN: EQREDK
COUNTRY: Japan
DOCUMENT TYPE: Journal; Article
FILE SEGMENT: 011 Otorhinolaryngology
022 Human Genetics
029 Clinical and Experimental Biochemistry
005 General Pathology and Pathological Anatomy
LANGUAGE: Japanese
SUMMARY LANGUAGE: English
ENTRY DATE: Entered STN: 28 Jul 2005
Last Updated on STN: 28 Jul 2005
ED Entered STN: 28 Jul 2005
Last Updated on STN: 28 Jul 2005
AB We have performed a proteomic analysis of the inner ear proteins using 2D-GE. In the process of analysis, we have found very unique properties of the COCH gene product. The COCH gene mutated in DFNA9, an autosomal dominant hereditary sensorineural hearing loss and vestibular disorder, encodes cochlin. DFNA9 patients show symptoms such as episodes of vertigo, tinnitus, aural fullness and hearing loss. Clinically, these symptoms are consistent with the criteria for Meniere's disease. COCH is the only gene identified so far whose mutation leads to the symptoms of Meniere's disease in a significant portion of the carriers. We showed that Cochlin constitutes 70% of inner ear proteins, and identified three cochlin isoforms in the inner ear tissue, p63s, p44s and p40s, which exhibit significant molecular heterogeneity. Structure analysis of Cochlin isoforms showed that the mutations influence only the full-length isoform of Cochlin (p63s), and not the processed Cochlin isoforms (p44s and p40s), which do not contain the LCCL domain. What happens to the LCCL domain once it is cleaved from full-length Cochlin was an open issue. We further characterized the expression and structure of Cochlin isoforms by isoform-specific antibodies that recognize three distinct domains. Inner ear, as well as perilymph proteins were analyzed by western blot analysis. We have detected Cochlin isoforms in the inner ear tissue and we have identified a novel short 16 kDa isoform in the perilymph, named Cochlin-tomoprotein (CTP), corresponding to the N-terminus of full-length Cochlin (p63s) and the LCCL domain. Notably, CTP contains all of the known mutation sites associated with DFNA9. Our results on the formation and processing of these isoforms in the inner ear will be central to a better understanding of Cochlin function and its role in the pathophysiology of DFNA9. Furthermore, using above mentioned results, we are now performing a translational research to improve diagnosis and prognosis in patients with sensorineural hearing loss and vestibular disorders.

L2 ANSWER 15 OF 37 MEDLINE on STN
ACCESSION NUMBER: 2004188931 MEDLINE Full-text
DOCUMENT NUMBER: PubMed ID: 15085190
TITLE: Experimental autoimmune hearing loss.
AUTHOR: Billings Peter
CORPORATE SOURCE: Division of Otolaryngology-Head and Neck Surgery, University of California, San Diego, and Research Service of the Department of Veterans Affairs, San Diego, California 92161, USA.. pbillings@ucsd.edu
SOURCE: The Journal of clinical investigation, (2004 Apr) Vol. 113, No. 8, pp. 1114-7.
Journal code: 7802877. ISSN: 0021-9738.
PUB. COUNTRY: United States
DOCUMENT TYPE: Commentary
Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English
FILE SEGMENT: Abridged Index Medicus Journals; Priority Journals
ENTRY MONTH: 200405
ENTRY DATE: Entered STN: 16 Apr 2004
Last Updated on STN: 10 May 2004
Entered Medline: 6 May 2004

ED Entered STN: 16 Apr 2004
Last Updated on STN: 10 May 2004
Entered Medline: 6 May 2004

AB Understanding of autoimmune sensorineural hearing loss (ASNHL) has been hindered by the inaccessibility of the inner ear to biopsy and the lack of workable animal models. A report in this issue of the JCI describes a mouse model of CD4(+) T cell-mediated ASNHL induced by immunization with peptides from the inner ear-specific proteins cochlin and beta-tectorin.

L2 ANSWER 16 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2004:20713 CAPLUS Full-text
DOCUMENT NUMBER: 140:92586
TITLE: Antibody specific to cochlin N-terminal sequence for diagnosis of perilymphatic fistula
INVENTOR(S): Ikezono, Tetsuo; Yagi, Toshiaki; Omori, Akira
PATENT ASSIGNEE(S): Nippon Medical School Foundation, Japan
SOURCE: PCT Int. Appl., 65 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
WO 2004003020	A1	20040108	WO 2003-JP8123		20030626
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW					
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG					
AU 2003243985	A1	20040119	AU 2003-243985		20030626
JP 2004085552	A	20040318	JP 2003-182860		20030626
EP 1533319	A1	20050525	EP 2003-736265		20030626
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK					
CN 1665841	A	20050907	CN 2003-815172		20030626
CN 100335502	C	20070905			
US 20060246516	A1	20061102	US 2006-517778		20060414
PRIORITY APPLN. INFO.:			JP 2002-187479	A	20020627
			WO 2003-JP8123	W	20030626

ED Entered STN: 11 Jan 2004

AB It is intended to provide a method of conveniently and surely detecting a perilymphatic fistula at a low invasion degree for a patient. The method of detecting a perilymphatic fistula comprises detecting the existence of Cochlin in a body fluid in the middle ear. The method and test kit comprises antibody specific to cochlin N-terminal sequence.

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 17 OF 37 MEDLINE on STN DUPLICATE 12
ACCESSION NUMBER: 2004086198 MEDLINE Full-text
DOCUMENT NUMBER: PubMed ID: 14657014
TITLE: Cochlin, a secreted von Willebrand factor type a domain-containing factor, is regulated by leukemia inhibitory factor in the uterus at the time of embryo implantation.
AUTHOR: Rodriguez Clara I; Cheng Jr-Gang; Liu Linda; Stewart Colin L
CORPORATE SOURCE: Cancer and Developmental Biology Laboratory, National Cancer Institute, Division of Basic Science, National Cancer Institute at Frederick, National Institutes of Health, Frederick, Maryland 21702, USA.
SOURCE: Endocrinology, (2004 Mar) Vol. 145, No. 3, pp. 1410-8. Electronic Publication: 2003-12-04.
Journal code: 0375040. ISSN: 0013-7227.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Abridged Index Medicus Journals; Priority Journals
ENTRY MONTH: 200403
ENTRY DATE: Entered STN: 21 Feb 2004
Last Updated on STN: 24 Mar 2004
Entered Medline: 23 Mar 2004
ED Entered STN: 21 Feb 2004
Last Updated on STN: 24 Mar 2004
Entered Medline: 23 Mar 2004
AB Embryo implantation is a required step in the reproduction of all mammals. In mice, a transient rise in the uterine expression of leukemia inhibitory factor (LIF) occurs on d 4 of pregnancy and is essential for embryo implantation. However, which genes are regulated by LIF in the uterus at implantation has not been determined. We performed a subtractive hybridization assay between luminal epithelial (LE) mRNAs from d 3 and 4 of pregnancy to find genes up-regulated on d 4 and which would be potentially regulated by LIF. One candidate, Coch-5b2, was up-regulated on the day of implantation. Coch mRNA localized to the LE of wild-type mice and was not detected in uteri from Lif-deficient mice. Treatment of LE with LIF, both in vitro and in vivo, resulted in the up-regulation of Coch. Coch is also highly expressed in other tissues, including the spleen and inner ear, but only in the uterus is Coch expression regulated by LIF. Mice were derived in which Coch was either deleted or tagged with a LacZ reporter. In mice carrying the tagged Coch gene, expression of Coch was detected in the LE and also at the site of embryo implantation. However, mice in which the Coch gene was deleted were normal, showing no overt defects in their reproduction. Although loss of Coch expression is not essential to reproduction in mice, it may serve as a useful marker for assessing the state of uterine receptivity in response to LIF at the onset of implantation.

L2 ANSWER 18 OF 37 MEDLINE on STN DUPLICATE 13
ACCESSION NUMBER: 2004188941 MEDLINE Full-text
DOCUMENT NUMBER: PubMed ID: 15085200
TITLE: Murine autoimmune hearing loss mediated by CD4+ T cells specific for inner ear peptides.
AUTHOR: Solares C Arturo; Edling Andrea E; Johnson Justin M; Baek Moo-Jin; Hirose Keiko; Hughes Gordon B; Tuohy Vincent K
CORPORATE SOURCE: Department of Immunology, and Head and Neck Institue, Cleveland Clinic Foundation, Ohio 44195, USA.
CONTRACT NUMBER: AI-51837 (United States NIAID)
NS-36054 (United States NINDS)
NS-37476 (United States NINDS)
SOURCE: The Journal of clinical investigation, (2004 Apr) Vol. 113, No.

8, pp. 1210-7.
Journal code: 7802877. ISSN: 0021-9738.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
(RESEARCH SUPPORT, U.S. GOV'T, P.H.S.)
LANGUAGE: English
FILE SEGMENT: Abridged Index Medicus Journals; Priority Journals
ENTRY MONTH: 200405
ENTRY DATE: Entered STN: 16 Apr 2004
Last Updated on STN: 10 May 2004
Entered Medline: 6 May 2004
ED Entered STN: 16 Apr 2004
Last Updated on STN: 10 May 2004
Entered Medline: 6 May 2004
AB Autoimmune sensorineural hearing loss (ASNHL) is characterized typically by bilateral, rapidly progressive hearing loss that responds therapeutically to corticosteroid treatment. Despite its name, data implicating autoimmunity in the etiopathogenesis of ASNHL have been limited, and targeted self-antigens have not been identified. In the current study we show that the inner ear-specific proteins cochlin and beta-tectorin are capable of targeting experimental autoimmune hearing loss (EAHL) in mice. Five weeks after immunization of SWXJ mice with either Coch 131-150 or beta-tectorin 71-90, auditory brainstem responses (ABR) showed significant hearing loss at all frequencies tested. Flow cytometry analysis showed that each peptide selectively activated CD4(+) T cells with a proinflammatory Th1-like phenotype. T cell mediation of EAHL was determined by showing significantly increased ABR thresholds 6 weeks after adoptive transfer of peptide-activated CD4(+) T cells into naive SWXJ recipients. Immunocytochemical analysis showed that leukocytic infiltration of inner ear tissues coincided with onset of hearing loss. Our study provides a contemporary mouse model for clarifying our understanding of ASNHL and facilitating the development of novel effective treatments for this clinical entity. Moreover, our data provide experimental confirmation that ASNHL may be a T cell-mediated organ-specific autoimmune disorder of the inner ear.

L2 ANSWER 19 OF 37 BIOSIS COPYRIGHT (c) 2008 The Thomson Corporation on STN
DUPLICATE 14
ACCESSION NUMBER: 2004:311722 BIOSIS Full-text
DOCUMENT NUMBER: PREV200400311433
TITLE: Experimental autoimmune hearing loss.
AUTHOR(S): Billings, Peter [Reprint Author]
CORPORATE SOURCE: Div Otolaryngol Head and Neck Surg, Univ Calif San Diego, 3350 La Jolla Village Dr, San Diego, CA, 92161, USA
pbillings@ucsd.edu
SOURCE: Journal of Clinical Investigation, (April 2004) Vol. 113, No. 8, pp. 1114-1117. print.
CODEN: JCINAO. ISSN: 0021-9738.
DOCUMENT TYPE: Article
LANGUAGE: English
ENTRY DATE: Entered STN: 15 Jul 2004
Last Updated on STN: 15 Jul 2004
ED Entered STN: 15 Jul 2004
Last Updated on STN: 15 Jul 2004
AB Understanding of autoimmune sensorineural hearing loss (ASNHL) has been hindered by the inaccessibility of the inner ear to biopsy and the lack of workable animal models. A report in this issue of the JCI describes a mouse model of CD4+ T cell-mediated ASNHL induced by immunization with peptides from

the inner ear-specific proteins cochlin and beta-tectorin (see the related article beginning on page 1210).

L2 ANSWER 20 OF 37 EMBASE COPYRIGHT (c) 2008 Elsevier B.V. All rights reserved on STN
ACCESSION NUMBER: 2004508536 EMBASE Full-text
TITLE: A translational research - Inner ear proteomics, cochlin isoforms and its application to a novel diagnositic method.
AUTHOR: Ikezono, Tetsuo
SOURCE: Otolaryngology - Head and Neck Surgery (Tokyo), (2004) Vol. 76, No. 12, pp. 838-849.
Refs: 24
ISSN: 0914-3491 CODEN: JITGE2
COUNTRY: Japan
DOCUMENT TYPE: Journal; Article
FILE SEGMENT: 011 Otorhinolaryngology
029 Clinical and Experimental Biochemistry
LANGUAGE: Japanese
ENTRY DATE: Entered STN: 17 Dec 2004
Last Updated on STN: 17 Dec 2004
ED Entered STN: 17 Dec 2004
Last Updated on STN: 17 Dec 2004

L2 ANSWER 21 OF 37 MEDLINE on STN DUPLICATE 15
ACCESSION NUMBER: 2004033880 MEDLINE Full-text
DOCUMENT NUMBER: PubMed ID: 14733925
TITLE: Identification of a novel Cochlin isoform in the perilymph: insights to Cochlin function and the pathogenesis of DFNA9.
AUTHOR: Ikezono Tetsuo; Shindo Susumu; Li Lishu; Omori Akira; Ichinose Sachiyo; Watanabe Atsushi; Kobayashi Toshimitsu; Pawankar Ruby; Yagi Toshiaki
CORPORATE SOURCE: Department of Otorhinolaryngology, Nippon Medical School, Tokyo, Japan.. tikezono@nms.ac.jp
SOURCE: Biochemical and biophysical research communications, (2004 Feb 6) Vol. 314, No. 2, pp. 440-6.
Journal code: 0372516. ISSN: 0006-291X.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200403
ENTRY DATE: Entered STN: 22 Jan 2004
Last Updated on STN: 6 Mar 2004
Entered Medline: 5 Mar 2004
ED Entered STN: 22 Jan 2004
Last Updated on STN: 6 Mar 2004
Entered Medline: 5 Mar 2004
AB The COCH gene mutated in DFNA9, an autosomal dominant hereditary sensorineural hearing loss and vestibular disorder, encodes Cochlin. Previously, we reported three bovine Cochlin isoforms, p63s, p44s, and p40s, which exhibit significant molecular heterogeneity in vivo. Here we have characterized Cochlin isoforms by generating four isoform-specific anti-Cochlin antibodies. The same three Cochlin isoforms, p63s, p44s, and p40s, were detected in human and cow inner ear tissue; however, p44s and p40s were not detected in perilymph. We identified a novel short 16kDa isoform in human perilymph and a 18-23kDa isoform in cow perilymph, named Cochlin -tomoprotein (CTP), corresponding to the N-terminus of full-length Cochlin (p63s) and the LCCL domain. Notably, CTP contains all of the known mutation sites associated with DFNA9. The pathogenesis of DFNA9 is not fully clarified as yet, and this

novel perilymph-associated CTP isoform might provide mechanistic clues to how mutations in the COCH gene damage the inner ear function.

L2 ANSWER 22 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2003:375817 CAPLUS Full-text
DOCUMENT NUMBER: 139:83324
TITLE: Lack of pendrin expression leads to deafness and expansion of the endolymphatic compartment in inner ears of foxi1 null mutant mice
AUTHOR(S): Hulander, Malin; Kiernan, Amy E.; Blomqvist, Sandra Rodrigo; Carlsson, Peter; Samuelsson, Emma-Johanna; Johansson, Bengt R.; Steel, Karen P.; Enerback, Sven
CORPORATE SOURCE: Medical Genetics, Department of Medical Biochemistry, Institute of Anatomy and Cell Biology, Goteborg University, Goteborg, SE-405 30, Swed.
SOURCE: Development (Cambridge, United Kingdom) (2003), 130(9), 2013-2025
CODEN: DEVPED; ISSN: 0950-1991
PUBLISHER: Company of Biologists Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 16 May 2003
AB Mice that lack the winged helix/forkhead gene Foxi1 (also known as Fkh10) are deaf and display shaker/waltzer behavior, an indication of disturbed balance. While Foxi1 is expressed in the entire otic vesicle at E9.5, it becomes gradually restricted to the endolymphatic duct/sac epithelium and at E16.5 Foxi1 expression in the inner ear is confined to this epithelium. Histol. sections, paint-fill expts. and whole-mount hybridizations reveal no abnormality in inner ear development of Foxi1-/- mice before E13.5. Between E13.5 and E16.5 the membranous labyrinth of inner ears from null mutants starts to expand as can be seen in histol. sections, paint-fill expts. and three-dimensional reconstruction. Postnatally, inner ears of Foxi1-/- mice are extremely expanded, and large irregular cavities, compressing the cerebellum and the otherwise normal middle ear, have replaced the delicate compartments of the wild-type inner ear. This phenotype resembles that of the human sensorineural deafness syndrome Pendred syndrome, caused by mutations in the PDS gene. In situ hybridization of Foxi1-/- endolymphatic duct/sac epithelium shows a complete lack of the transcript encoding the chloride/iodide transporter pendrin. Based on this, the authors would like to suggest that Foxi1 is an upstream regulator of pendrin and that the phenotype seen in Foxi1 null mice is, at least in part, due to defective pendrin-mediated chloride ion resorption in the endolymphatic duct/sac epithelium. The authors show that this regulation could be mediated by the absence of a specific endolymphatic cell type - FORE (forkhead related) cells - expressing Foxi1, Pds, Coch and Jag1. Thus, mutations in FOXI1 could prove to cause a Pendred syndrome-like human deafness.
REFERENCE COUNT: 60 THERE ARE 60 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 23 OF 37 MEDLINE on STN DUPLICATE 16
ACCESSION NUMBER: 2003314653 MEDLINE Full-text
DOCUMENT NUMBER: PubMed ID: 12843317
TITLE: Subcellular localisation, secretion, and post-translational processing of normal cochlin, and of mutants causing the sensorineural deafness and vestibular disorder, DFNA9.
AUTHOR: Robertson N G; Hamaker S A; Patriub V; Aster J C; Morton C C
CORPORATE SOURCE: Department of Obstetrics, Gynecology and Reproductive Biology, Brigham and Women's Hospital, Boston, MA 02115, USA.
CONTRACT NUMBER: CA82308 (United States NCI)
DC03402 (United States NIDCD)

SOURCE: Journal of medical genetics, (2003 Jul) Vol. 40, No. 7, pp. 479-86.
Journal code: 2985087R. E-ISSN: 1468-6244.
PUB. COUNTRY: England: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, U.S. GOV'T, P.H.S.)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200308
ENTRY DATE: Entered STN: 8 Jul 2003
Last Updated on STN: 6 Aug 2003
Entered Medline: 5 Aug 2003
ED Entered STN: 8 Jul 2003
Last Updated on STN: 6 Aug 2003
Entered Medline: 5 Aug 2003
AB Five missense mutations in the FCH/LCCL domain of the COCH gene, encoding the protein cochlin, are pathogenic for the autosomal dominant hearing loss and vestibular dysfunction disorder, DFNA9. To date, the function of cochlin and the mechanism of pathogenesis of the mutations are unknown. We have used the biological system of transient transfections of the entire protein coding region of COCH into several mammalian cell lines, to investigate various functional properties of cochlin. By western blot analysis of lysates prepared from transfected cells, we show that cochlin is a secreted protein. Immunocytochemistry shows concentrated localisation of cochlin in perinuclear structures consistent with the Golgi apparatus and endoplasmic reticulum, showing intracellular passage through these secretory compartments. We detected that cochlin is proteolytically cleaved between the FCH/LCCL domain and the downstream vWFA domains, resulting in a smaller cochlin isoform of approximately 50 kDa. Interestingly, this isoform lacks the entire mutation bearing FCH/LCCL domain. We have also shown that cochlin is N-glycosylated in its mature secreted form. Previous studies of the FCH/LCCL domain alone, expressed in bacteria, have demonstrated that three of four DFNA9 mutations cause misfolding of this domain. Characteristic eosinophilic deposits in DFNA9 affected inner ear structures could be the result of aberrant folding, secretion, or solubility of mutated cochlins, as in certain other pathological states in which misfolded proteins accumulate and aggregate causing toxicity. To examine the biological consequences of cochlin misfolding, we made separate constructs with three of the DFNA9 mutations and performed parallel studies of the mutated and wild type cochlins. We detected that mutated cochlins are not retained intracellularly, and are able to be secreted adequately by the cells, through the Golgi/ER secretory pathway, and also undergo proteolytic cleavage and glycosylation. These results suggest that DFNA9 mutations may manifest deleterious effects beyond the point of secretion, in the unique environment of the extracellular matrix of the inner ear by disrupting cochlin function or interfering with protein-protein interactions involving the FCH/LCCL domain. It is also possible that the mutations may result in aggregation of cochlin in vivo over a longer time course, as supported by the late onset and progressive nature of this disorder.

L2 ANSWER 24 OF 37 MEDLINE on STN DUPLICATE 17
ACCESSION NUMBER: 2003444280 MEDLINE Full-text
DOCUMENT NUMBER: PubMed ID: 12928864
TITLE: Mutations in COCH that result in non-syndromic autosomal dominant deafness (DFNA9) affect matrix deposition of cochlin.
AUTHOR: Grabski Robert; Szul Tomasz; Sasaki Takako; Timpl Rupert; Mayne Richard; Hicks Barrett; Sztul Elizabeth
CORPORATE SOURCE: Department of Cell Biology, University of Alabama at Birmingham, Birmingham, AL 35294, USA.
SOURCE: Human genetics, (2003 Oct) Vol. 113, No. 5, pp. 406-16.

Electronic Publication: 2003-08-20.
Journal code: 7613873. ISSN: 0340-6717.
PUB. COUNTRY: Germany: Germany, Federal Republic of
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200310
ENTRY DATE: Entered STN: 24 Sep 2003
Last Updated on STN: 1 Nov 2003
Entered Medline: 31 Oct 2003
ED Entered STN: 24 Sep 2003
Last Updated on STN: 1 Nov 2003
Entered Medline: 31 Oct 2003
AB The COCH gene mutated in autosomal dominant sensorineural deafness (DFNA9) encodes cochlin, a major constituent of the inner ear extracellular matrix. Sequence analysis of cochlin from DFNA9 patients identified five distinct single-amino-acid mutations within a conserved region (the LCCL domain) of cochlin. To define the molecular basis of DFNA9, we have generated myc-tagged wild-type and mutant cochlins and explored their behavior in transient transfection systems. Western blotting of cell lysates and culture media indicates that wild-type and mutant cochlins are synthesized and secreted in similar amounts. Immunofluorescent staining confirms that all are detected within the endoplasmic reticulum and the Golgi complex of transfected cells. Our findings suggest that COCH mutations are unlikely to cause abnormalities in secretion and suggest that extracellular events might cause DFNA9 pathology. In agreement, we show that wild-type cochlin accumulates in extracellular deposits that closely parallel the matrix component fibronectin, whereas mutant cochlins vary in the amount and pattern of extracellular material. Whereas some mutants exhibit an almost normal deposition pattern, some show complete lack of deposition. Our results suggest that DFNA9 results from gene products that fail to integrate correctly into the extracellular matrix. The partial or complete penetrance of integration defects suggests that DFNA9 pathology may be caused by multiple molecular mechanisms, including compromised ability of cochlin to self-assemble or to form appropriate complexes with other matrix components.

L2 ANSWER 25 OF 37 EMBASE
ACCESSION NUMBER: 2003280156 EMBASE Full-text
TITLE: Meniere's disease and gene therapy.
AUTHOR: Ikezono, Tetsuo
SOURCE: Equilibrium Research, (Apr 2003) Vol. 62, No. 2, pp. 112-116.
Refs: 15
ISSN: 0385-5716 CODEN: EQREDK
COUNTRY: Japan
DOCUMENT TYPE: Journal; Conference Article; (Conference paper)
FILE SEGMENT: 011 Otorhinolaryngology
022 Human Genetics
LANGUAGE: Japanese
SUMMARY LANGUAGE: English; Japanese
ENTRY DATE: Entered STN: 31 Jul 2003
Last Updated on STN: 31 Jul 2003
ED Entered STN: 31 Jul 2003
Last Updated on STN: 31 Jul 2003
AB The use of viral vectors for inner ear gene therapy is limited by the promiscuous tropism of vectors and non-specificity of viral promoters. Tissue specific gene targeting will become possible via infection targeting and expression (transcription) targeting. In order to develop an new strategy for the treatment of Meniere's disease, inner ear-specific gene therapy is

discussed. Proteomic analysis of inner ear protein was performed. Bovine inner ear tissues were subjected to 2-D gel electrophoresis. Among the 50 proteins that were determined by protein micro-sequencing and gene database search, the COCH gene was a good candidate for a gene that has inner ear expression property. Temporal and spacial expression pattern of the COCH gene was examined at the protein level. Rabbit polyclonal antibody was generated against a synthetic peptide corresponding to the Cochlin isoforms. Immunohistochemistry revealed steady expression of Cochlin throughout the development of the inner ear. Full length Cochlin was detected only in the inner ear among the 10 different organs tested by western blotting. The promoter and enhancer region of the COCH gene is being cloned. Unlike other hereditary deafness genes, COCH gene expression is highly specific for the inner ear. The promoter and enhancer of the COCH gene is useful for future gene therapy in inner ear disease. Inner ear specific gene delivery coupled with the medical applications of functional RNAs (ribozyme, RNA interference) will make it possible to treat hereditary hearing impairment, such as DFNA9.

L2 ANSWER 26 OF 37 BIOSIS COPYRIGHT (c) 2008 The Thomson Corporation on STN
ACCESSION NUMBER: 2004:55663 BIOSIS Full-text
DOCUMENT NUMBER: PREV200400051100
TITLE: Autoimmune sensorineural hearing loss in mice is mediated by CD4+ T cells targeting inner ear-specific peptides.
AUTHOR(S): Solares, C. Arturo [Reprint Author]; Edling, Andrea E. [Reprint Author]; Hirose, Keiko; Hughes, Gordon B.; Tuohy, Vincent K. [Reprint Author]
CORPORATE SOURCE: Immunology, Cleveland Clinic Foundation, 9500 Euclid Avenue, Cleveland, OH, 44195, USA
SOURCE: FASEB Journal, (April 14 2003) Vol. 17, No. 7, pp. C42. print.
Meeting Info.: 90th Anniversary Annual Meeting of the American Association of Immunologists. Denver, CO, USA. May 06-10, 2003. American Association of Immunologists.
ISSN: 0892-6638 (ISSN print).
DOCUMENT TYPE: Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)
LANGUAGE: English
ENTRY DATE: Entered STN: 21 Jan 2004
Last Updated on STN: 21 Jan 2004
ED Entered STN: 21 Jan 2004
Last Updated on STN: 21 Jan 2004

L2 ANSWER 27 OF 37 EMBASE COPYRIGHT (c) 2008 Elsevier B.V. All rights reserved on STN
ACCESSION NUMBER: 2002159077 EMBASE Full-text
TITLE: Proteomic analysis of the vertigo and deafness gene, COCH.
AUTHOR: Ikezono, Tetsuo (correspondence)
CORPORATE SOURCE: Department of Otorhinolaryngology, Nippon Medical School, Nippon, Japan.
SOURCE: Equilibrium Research, (2002) Vol. 61, No. 1, pp. 47-53.
Refs: 10
ISSN: 0385-5716 CODEN: EQREDK
COUNTRY: Japan
DOCUMENT TYPE: Journal; Article
FILE SEGMENT: 011 Otorhinolaryngology
022 Human Genetics
LANGUAGE: Japanese
SUMMARY LANGUAGE: English; Japanese
ENTRY DATE: Entered STN: 16 May 2002
Last Updated on STN: 16 May 2002
ED Entered STN: 16 May 2002
Last Updated on STN: 16 May 2002

AB In recent years, due to the technological advances of molecular biology, many important findings are reported in the field of hereditary hearing impairment (HHI). Some of the HHI genes have been cloned and the mutations of those genes were identified. Much knowledge has accumulated about the HHI genes, however, little research has been done regarding the protein products of those genes. Two-dimensional gel electrophoresis and direct protein sequencing, together with searches in protein and DNA, EST databases, have accelerated the protein-identification process. The proteome is the expressed protein complement of a genome and proteomics is functional genomics at the protein level. To characterize deafness genes at the protein level as well as other inner ear proteins, we have performed a proteomic analysis of the inner ear proteins. In the process of analysis, we have found very unique properties of the protein product of a deafness gene, COCH. The COCH gene is responsible for one of the HHI, DFNA9. DFNA9 is the locus in humans reported to involve vestibular problems as part of the non-syndromic deafness phenotype. The primary pathologic change of the DFNA9 is a deposit of acid polymucosaccharide ground substance is the cribrose areas; in the spiral ligament, limbus, and spiral lamina of the cochlea; and in the stroma of the maculae and cristae. The end result is neuronal degeneration in association with varying degrees of atrophic change in the sense organs. Recently, it is suggested that missense mutation in the COCH gene might be related to the pathogenesis of Meniere's disease. Our results show that the protein product of the Coch gene constitutes 70% of inner ear proteins and is composed of 16 different protein spots with charge and size heterogeneity. Amino acid analysis of these spots identified 3 groups of isoforms of Coch protein (Cochlin), p63s, p44s and p40s. All 6 mutations found in DFNA9 patients are found in p63s, not in p44s and p40s. Heterogeneity of this protein suggests that the Coch gene is processed in several ways and may suggest that the Coch protein is very important in the inner ear function. Study of the Coch protein might provide more information on the mechanism of hearing and vestibular disorders.

L2 ANSWER 28 OF 37 MEDLINE on STN DUPLICATE 18
ACCESSION NUMBER: 2001689360 MEDLINE Full-text
DOCUMENT NUMBER: PubMed ID: 11709536
TITLE: Inner ear localization of mRNA and protein products of COCH, mutated in the sensorineural deafness and vestibular disorder, DFNA9.
AUTHOR: Robertson N G; Resendes B L; Lin J S; Lee C; Aster J C; Adams J C; Morton C C
CORPORATE SOURCE: Department of Pathology, Brigham and Women's Hospital, Boston, MA 02115, USA.
CONTRACT NUMBER: CA82308 (United States NCI)
DC03402 (United States NIDCD)
DC03929 (United States NIDCD)
F32 DC00405 (United States NIDCD)
SOURCE: Human molecular genetics, (2001 Oct 15) Vol. 10, No. 22, pp. 2493-500.
Journal code: 9208958. ISSN: 0964-6906.
PUB. COUNTRY: England: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, U.S. GOV'T, P.H.S.)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200202
ENTRY DATE: Entered STN: 12 Dec 2001
Last Updated on STN: 22 Feb 2002
Entered Medline: 21 Feb 2002
ED Entered STN: 12 Dec 2001
Last Updated on STN: 22 Feb 2002
Entered Medline: 21 Feb 2002

AB Missense mutations in the COCH gene, which is expressed preferentially at high levels in the inner ear, cause the autosomal dominant sensorineural deafness and vestibular disorder, DFNA9 (OMIM 601369). By in situ hybridization of mouse and human inner ear sections, we find high-level expression of COCH mRNA in the fibrocytes of the spiral limbus and of the spiral ligament in the cochlea, and in the fibrocytes of the connective tissue stroma underlying the sensory epithelium of the crista ampullaris of the semicircular canals. A polyclonal antibody against the human COCH protein product, cochlin, was raised against the N-terminal 135 amino acid residues of cochlin, corresponding to the Limulus factor C-homology (cochFCH) domain; this domain harbors all five known point mutations in DFNA9. On western blots of human fetal cochlear extracts, anti-cochlin reacts with a cochlin band of the predicted full-length size as well as a smaller isoform. Immunohistochemistry performed with anti-cochlin shows staining predominantly in the regions of the fibrocytes of the spiral limbus and of the spiral ligament in mouse and in human fetal and adult tissue sections. These sites correspond to those areas that express COCH mRNA as determined by in situ hybridization, and to the regions of the inner ear which show histological abnormalities in DFNA9. The fibrocytes expressing mRNA and protein products of COCH are the very cell types which are either absent or markedly reduced and replaced by eosinophilic acellular material in temporal bone sections of individuals affected with DFNA9.

L2 ANSWER 29 OF 37 MEDLINE on STN DUPLICATE 19
ACCESSION NUMBER: 2001520614 MEDLINE Full-text
DOCUMENT NUMBER: PubMed ID: 11568667
TITLE: COCH5B2 is a target antigen of anti-inner ear antibodies in autoimmune inner ear diseases.
AUTHOR: Boulassel M R; Tomasi J P; Deggouj N; Gersdorff M
CORPORATE SOURCE: Laboratory of Autoimmunity, University of Louvain Medical School, Brussels, Belgium.
SOURCE: Otology & neurotology : official publication of the American Otological Society, American Neurotology Society [and] European Academy of Otology and Neurotology, (2001 Sep) Vol. 22, No. 5, pp. 614-8.
Journal code: 100961504. ISSN: 1531-7129.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200112
ENTRY DATE: Entered STN: 25 Sep 2001
Last Updated on STN: 22 Jan 2002
Entered Medline: 7 Dec 2001
ED Entered STN: 25 Sep 2001
Last Updated on STN: 22 Jan 2002
Entered Medline: 7 Dec 2001
AB OBJECTIVE: This study was designed to identify the 58-kDa inner ear protein against which the sera of some patients with idiopathic, progressive sensorineural hearing loss or Meniere's disease strongly react. BACKGROUND: We and other groups have previously demonstrated that a 58-kDa protein extracted from guinea pig or bovine inner ear tissue is a target of antibodies in serum samples from some patients with autoimmune inner ear diseases. METHODS: After separation of inner ear proteins by 10% sodium dodecyl sulfate polyacrylamide gel electrophoresis, the bands corresponding to 58 kDa were localized and excised from the gel. The concentrated protein was then digested with trypsin, and the peptide fragments were separated by high-pressure liquid chromatography. Three fractions were subjected to amino acid sequencing by the classic Edman degradation. RESULTS: The sequence of a

stretch of 14 amino acids of the first fragment was identical to that of amino acids 526 to 539 of the COCH5B2 protein. The sequences of 11 and 10 amino acids of the second and third fragments, respectively, also were identical to residues 417 to 427 and 396 to 405 of the COCH5B2 protein. These data, together with two-dimensional gel electrophoresis followed by Western blot experiments, confirmed that the 58-kDa inner ear protein is the COCH5B2 protein. DISCUSSION: These findings indicate that the 58-kDa target protein of antibodies in serum samples of patients with autoimmune inner ear diseases is the COCH5B2 protein, a molecule that is highly and specifically expressed in the cochlea and vestibule.

L2 ANSWER 30 OF 37 BIOSIS COPYRIGHT (c) 2008 The Thomson Corporation on STN
ACCESSION NUMBER: 2001:539510 BIOSIS Full-text
DOCUMENT NUMBER: PREV200100539510
TITLE: Inner ear localization of mRNA and protein products of COCH, mutated in the sensorineural deafness and vestibular disorder, DFNA9.
AUTHOR(S): Robertson, N. G. [Reprint author]; Resendes, B. L. [Reprint author]; Lin, J. S. [Reprint author]; Lee, C. [Reprint author]; Aster, J. C. [Reprint author]; Adams, J. C.; Morton, C. C. [Reprint author]
CORPORATE SOURCE: Dept Pathology, Brigham and Women's Hosp, Boston, MA, USA
SOURCE: American Journal of Human Genetics, (October, 2001) Vol. 69, No. 4 Supplement, pp. 348. print.
Meeting Info.: 51st Annual Meeting of the American Society of Human Genetics. San Diego, California, USA. October 12-16, 2001.
CODEN: AJHGAG. ISSN: 0002-9297.
DOCUMENT TYPE: Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)
Conference; (Meeting Poster)
LANGUAGE: English
ENTRY DATE: Entered STN: 21 Nov 2001
Last Updated on STN: 25 Feb 2002
ED Entered STN: 21 Nov 2001
Last Updated on STN: 25 Feb 2002

L2 ANSWER 31 OF 37 MEDLINE on STN DUPLICATE 20
ACCESSION NUMBER: 2001189893 MEDLINE Full-text
DOCUMENT NUMBER: PubMed ID: 11278165
TITLE: Identification of the protein product of the Coch gene (hereditary deafness gene) as the major component of bovine inner ear protein.
AUTHOR: Ikezono T; Omori A; Ichinose S; Pawankar R; Watanabe A; Yagi T
CORPORATE SOURCE: Department of Otorhinolaryngology, Nippon Medical School, Tokyo, Japan.. tikezono@nms.ac.jp
SOURCE: Biochimica et biophysica acta, (2001 Mar 26) Vol. 1535, No. 3, pp. 258-65.
Journal code: 0217513. ISSN: 0006-3002.
PUB. COUNTRY: Netherlands
DOCUMENT TYPE: (COMPARATIVE STUDY)
Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200105
ENTRY DATE: Entered STN: 21 May 2001
Last Updated on STN: 21 May 2001
Entered Medline: 17 May 2001
ED Entered STN: 21 May 2001
Last Updated on STN: 21 May 2001
Entered Medline: 17 May 2001

AB In order to better understand the cause of hereditary hearing impairment, we have performed a proteomic analysis of the inner ear proteins using two-dimensional gel electrophoresis. In the process of analysis, we have found very unique properties of the bovine homologue of the human COCH gene product. The COCH gene is responsible for one of the hereditary hearing impairments, DFNA9, and was recently suggested to be a possible genetic factor contributing to Meniere's disease. The Coch protein constitutes 70% of bovine inner ear proteins and is composed of 16 different protein spots, with charge and size heterogeneity. Heterogeneity of this protein suggests that the Coch gene is processed in several ways, at the transcriptional and/or posttranslational level. Much knowledge has accumulated about the hereditary hearing impairment genes; however, little research has been done regarding the protein products of those genes. This is the first report to characterize the Coch protein. Study of the Coch protein might provide more information on the mechanism of hearing and vestibular disorders.

L2 ANSWER 32 OF 37 BIOSIS COPYRIGHT (c) 2008 The Thomson Corporation on STN
ACCESSION NUMBER: 2000:402335 BIOSIS Full-text
DOCUMENT NUMBER: PREV200000402335
TITLE: Histopathology of the inner ear in DFNA9.
AUTHOR(S): Merchant, Saumil N. [Reprint author]; Linthicum, Fred H.; Nadol, Joseph B., Jr.
CORPORATE SOURCE: Department of Otolaryngology, Massachusetts Eye and Ear Infirmary, 243 Charles Street, Boston, MA, 02114-3096, USA
SOURCE: Kitamura, Ken; Steel, Karen P. Adv. Oto-Rhino-Laryngol., (2000) pp. 212-217. Advances in Oto-Rhino-Laryngology; Genetics in Otorhinolaryngology. print.
Publisher: S. Karger AG, P. O. Box, CH-4009, Basel, Switzerland. Series: Advances in Oto-Rhino-Laryngology.
CODEN: ADORB9. ISSN: 0065-3071. ISBN: 3-8055-6956-4 (cloth).
DOCUMENT TYPE: Book
Book; (Book Chapter)
LANGUAGE: English
ENTRY DATE: Entered STN: 20 Sep 2000
Last Updated on STN: 8 Jan 2002
ED Entered STN: 20 Sep 2000
Last Updated on STN: 8 Jan 2002

L2 ANSWER 33 OF 37 MEDLINE on STN DUPLICATE 21
ACCESSION NUMBER: 2000406178 MEDLINE Full-text
DOCUMENT NUMBER: PubMed ID: 10942145
TITLE: DFNA9 is a progressive audiovestibular dysfunction with a microfibrillar deposit in the inner ear.
AUTHOR: Khetarpal U
CORPORATE SOURCE: Massachusetts Eye and Ear Infirmary and Brigham and Women's Hospital, Boston, USA.
SOURCE: The Laryngoscope, (2000 Aug) Vol. 110, No. 8, pp. 1379-84.
Journal code: 8607378. ISSN: 0023-852X.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200008
ENTRY DATE: Entered STN: 1 Sep 2000
Last Updated on STN: 1 Sep 2000
Entered Medline: 24 Aug 2000
ED Entered STN: 1 Sep 2000
Last Updated on STN: 1 Sep 2000
Entered Medline: 24 Aug 2000

AB OBJECTIVES: Several mutations in the COCH gene were recently identified in American and European families with DFNA9, an autosomal dominant progressive sensorineural hearing loss with onset in high frequencies. Our preliminary vestibular studies in one American family indicated progressive vestibular dysfunction. More complete vestibular studies in European families have shown vestibular abnormalities in the affected individuals. Our temporal bone studies on two families with DFNA9 revealed, in addition to neurosensory degeneration, a unique acidophilic deposit in the membranous labyrinths of the affected individuals. The purposes of this study were 1) to further investigate the vestibular abnormalities in members of one American family for the purposes of genotype-phenotype correlation and 2) to investigate the electron microscopic structure of the acidophilic deposit to obtain further insights into the pathogenesis of DFNA9. STUDY DESIGN: Prospective analysis. METHODS: Extensive vestibular testing was performed in some unaffected and affected members of a family with DFNA9. One temporal bone was analyzed by electron microscopy of celloidin-embedded tissue. RESULTS AND CONCLUSIONS: The findings indicate progressive vestibular dysfunction in many of the patients affected with hearing loss. Thus, despite different mutations in the COCH gene, the American and European families manifest auditory and vestibular dysfunction. Electron microscopic analysis shows the spiral ligament to be enriched for a highly branched non-banded microfibrillar substance that is decorated with glycosaminoglycan granules. Additionally, the spiral ligament lacks the 67-nm-thick straight periodically banded bundles of type II collagen that are normally abundant in this structure. A speculative pathogenetic model is proposed for this unique disease and its relationship with other late-onset or adult-onset audiovestibular diseases and Meniere's disease is investigated.

L2 ANSWER 34 OF 37 MEDLINE on STN
ACCESSION NUMBER: 2000475223 MEDLINE Full-text
DOCUMENT NUMBER: PubMed ID: 10868238
TITLE: Histopathology of the inner ear in DFNA9.
AUTHOR: Merchant S N; Linthicum F H; Nadol J B Jr
CORPORATE SOURCE: Department of Otology and Laryngology, Harvard Medical School, Massachusetts Eye and Ear Infirmary, Boston, USA.. snm@epl.meei.harvard.edu
SOURCE: Advances in oto-rhino-laryngology, (2000) Vol. 56, pp. 212-7.
Journal code: 0242534. ISSN: 0065-3071.
PUB. COUNTRY: Switzerland
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200010
ENTRY DATE: Entered STN: 12 Oct 2000
Last Updated on STN: 12 Oct 2000
Entered Medline: 2 Oct 2000
ED Entered STN: 12 Oct 2000
Last Updated on STN: 12 Oct 2000
Entered Medline: 2 Oct 2000

L2 ANSWER 35 OF 37 MEDLINE on STN DUPLICATE 22
ACCESSION NUMBER: 2000391873 MEDLINE Full-text
DOCUMENT NUMBER: PubMed ID: 10890144
TITLE: The COCH gene: a frequent cause of hearing impairment and vestibular dysfunction?.
AUTHOR: Fransen E; Van Camp G
CORPORATE SOURCE: Department of Medical Genetics, University of Antwerp, Belgium.
SOURCE: British journal of audiology, (1999 Oct) Vol. 33, No. 5, pp. 297-302.
Journal code: 0357321. ISSN: 0300-5364.

PUB. COUNTRY: ENGLAND: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200008
ENTRY DATE: Entered STN: 24 Aug 2000
Last Updated on STN: 24 Aug 2000
Entered Medline: 15 Aug 2000
ED Entered STN: 24 Aug 2000
Last Updated on STN: 24 Aug 2000
Entered Medline: 15 Aug 2000
AB The identification of genes leading to hereditary hearing impairment is one of the ways to elucidate the functioning of the inner ear. Over the past few years, several genes responsible for non-syndromal hereditary hearing impairment have been identified. One of these genes, named COCH, is responsible for autosomal dominant progressive sensorineural hearing loss associated with vestibular impairment (DFNA9). Histopathological analysis in patients with a COCH mutation revealed the presence of an acidophylic mucopolysaccharide deposit in the inner ear. An overview of the clinical, pathological and genetic studies on COCH is given, and the possible role of COCH in the pathology of DFNA9 is discussed.

L2 ANSWER 36 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1998:622508 CAPLUS Full-text
DOCUMENT NUMBER: 129:342377
ORIGINAL REFERENCE NO.: 129:69729a,69732a
TITLE: Molecular markers for cell types of the inner ear and candidate genes for hearing disorders
AUTHOR(S): Heller, Stefan; Sheane, Charlotte A.; Javed, Zarqa; Hudspeth, A. J.
CORPORATE SOURCE: Howard Hughes Medical Institute and Laboratory of Sensory Neuroscience, The Rockefeller University, New York, NY, 10021-6399, USA
SOURCE: Proceedings of the National Academy of Sciences of the United States of America (1998), 95(19), 11400-11405
CODEN: PNASA6; ISSN: 0027-8424
PUBLISHER: National Academy of Sciences
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 02 Oct 1998
AB To identify genes expressed in the vertebrate inner ear, we have established an assay that allows rapid anal. of the differential expression pattern of mRNAs derived from an auditory epithelium-specific cDNA library. We performed subtractive hybridization to create an enriched probe, which then was used to screen the cDNA library. After digoxigenin-labeled antisense cRNAs had been transcribed from hybridization-pos. clones, we conducted in situ hybridization on slides bearing cryosections of late embryonic chicken heads, bodies, and cochleae. One hundred and twenty of the 196 clones analyzed encode 12 proteins whose mRNAs are specifically or highly expressed in the chicken's inner ear; the remainder encode proteins that occur more widely. We identified proteins that have been described previously as expressed in the inner ear, such as β-tectorin, calbindin, and type II collagen. A second group of proteins abundant in the inner ear includes five addnl. types of collagens. A third group, including Coch-5B2 and an ear-specific connexin, comprises proteins whose human equivalent are candidates to account for hearing disorders. This group also includes proteins expressed in two unique cell types of the inner ear, homogene cells and cells of the tegmentum vasculosum.
REFERENCE COUNT: 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS

RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 37 OF 37 MEDLINE on STN DUPLICATE 23
ACCESSION NUMBER: 1999021390 MEDLINE Full-text
DOCUMENT NUMBER: PubMed ID: 9806553
TITLE: Mutations in a novel cochlear gene cause DFNA9, a human nonsyndromic deafness with vestibular dysfunction.
AUTHOR: Robertson N G; Lu L; Heller S; Merchant S N; Eavey R D; McKenna M; Nadol J B Jr; Miyamoto R T; Linthicum F H Jr; Lubianca Neto J F; Hudspeth A J; Seidman C E; Morton C C; Seidman J G
CORPORATE SOURCE: Department of Pathology, Brigham and Women's Hospital, Harvard Medical School, Boston, Massachusetts 02115, USA.
CONTRACT NUMBER: DC00317 (United States NIDCD)
DC03402 (United States NIDCD)
SOURCE: Nature genetics, (1998 Nov) Vol. 20, No. 3, pp. 299-303.
Journal code: 9216904. ISSN: 1061-4036.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
(RESEARCH SUPPORT, U.S. GOV'T, P.H.S.)
LANGUAGE: English
FILE SEGMENT: Priority Journals
OTHER SOURCE: GENBANK-AF006740; GENBANK-AF006741; GENBANK-AF012252
ENTRY MONTH: 199811
ENTRY DATE: Entered STN: 6 Jan 1999
Last Updated on STN: 6 Jan 1999
Entered Medline: 16 Nov 1998
ED Entered STN: 6 Jan 1999
Last Updated on STN: 6 Jan 1999
Entered Medline: 16 Nov 1998
AB DFNA9 is an autosomal dominant, nonsyndromic, progressive sensorineural hearing loss with vestibular pathology. Here we report three missense mutations in human COCH (previously described as Coch5b2), a novel cochlear gene, in three unrelated kindreds with DFNA9. All three residues mutated in DFNA9 are conserved in mouse and chicken Coch, and are found in a region containing four conserved cysteines with homology to a domain in factor C, a lipopolysaccharide-binding coagulation factor in Limulus polyphemus. COCH message, found at high levels in human cochlear and vestibular organs, occurs in the chicken inner ear in the regions of the auditory and vestibular nerve fibres, the neural and abneural limbs adjacent to the cochlear sensory epithelium and the stroma of the crista ampullaris of the vestibular labyrinth. These areas correspond to human inner ear structures which show histopathological findings of acidophilic ground substance in DFNA9 patients.

=> d his

(FILE 'HOME' ENTERED AT 13:06:31 ON 20 OCT 2008)

FILE 'MEDLINE, BIOSIS, CAPLUS, EMBASE' ENTERED AT 13:06:42 ON 20 OCT 2008
L1 93 S (COCH OR COCHLIN OR COCH5B2 OR COCH-5B2 OR AW122937 OR DFNA9 OR DFNA31 OR DFNA-9 OR DFNA-31)(20A)(PERILYMPH? OR (INNER
L2 37 DUP REM L1 (56 DUPLICATES REMOVED)

=> s perilymph?(5a)(leak? OR fissure OR fistula?)
L3 1626 PERILYMPH?(5A)(LEAK? OR FISSURE OR FISTULA?)

=> s l3(20a)(antibod? OR ?transferrin? OR gm1 OR ?ganglioside? OR

prostaglandin(2a)synthase OR ?pdgs OR marker? OR biomarker?)
L4 41 L3(20A)(ANTIBOD? OR ?TRANSFERRIN? OR GM1 OR ?GANGLIOSIDE? OR PROSTAGLANDIN(2A) SYNTHASE OR ?PDGS OR MARKER? OR BIOMARKER?)

=> dup rem l4
PROCESSING COMPLETED FOR L4
L5 17 DUP REM L4 (24 DUPLICATES REMOVED)

=> d ibib ed abs l5 1-17

L5 ANSWER 1 OF 17 MEDLINE on STN DUPLICATE 1
ACCESSION NUMBER: 2005582967 MEDLINE Full-text
DOCUMENT NUMBER: PubMed ID: 16259651
TITLE: First clinical experience with beta-trace protein (prostaglandin D synthase) as a marker for perilymphatic fistula.
AUTHOR: Michel Olaf; Petereit Hela; Klemm Eckart; Walther Leif Erik; Bachmann-Harildstad Gregor
CORPORATE SOURCE: Departments of Otorhinolaryngology and Neurology, University Medical School Cologne, Cologne, Germany.
SOURCE: The Journal of laryngology and otology, (2005 Oct) Vol. 119, No. 10, pp. 765-9.
Journal code: 8706896. ISSN: 0022-2151.
PUB. COUNTRY: England: United Kingdom
DOCUMENT TYPE: (EVALUATION STUDIES)
Journal; Article; (JOURNAL ARTICLE)
(MULTICENTER STUDY)
(CLINICAL TRIAL)
LANGUAGE: English
FILE SEGMENT: Abridged Index Medicus Journals; Priority Journals
ENTRY MONTH: 200603
ENTRY DATE: Entered STN: 3 Nov 2005
Last Updated on STN: 10 Mar 2006
Entered Medline: 9 Mar 2006
ED Entered STN: 3 Nov 2005
Last Updated on STN: 10 Mar 2006
Entered Medline: 9 Mar 2006
AB A diagnosis of perilymphatic fistula is still controversial. Recently, a case report indicated that beta-trace protein (prostaglandin D synthase) might be a potential marker for perilymphatic fluid. In this multicentre clinical case series study beta-trace protein was used as a marker for perilymphatic fluid fistula. Fifteen fluid samples were collected during diagnostic tympanoscopy. In addition, five samples were collected from patients with tympanic membrane perforation for use as as negative controls. Samples were obtained using precision glass capillaries and were analysed for beta-trace protein using laser nephelometry. The diagnosis of perilymphatic fistula was defined by the patient's history, the audiological and vestibular investigation and the findings at tympanoscopy. The cut-off level of beta-trace protein for perilymph-positive samples was chosen at 1.11 mg/l. The sensitivity and specificity were calculated using a 2 x 2 contingency table. There was no false positive result, but in two cases a false negative result was found. The specificity was 1 and the sensitivity was 0.81. The material of this first clinical study is small owing to the rarity of patients undergoing diagnostic tympanoscopy for perilymphatic fluid fistula. However, according to these preliminary results beta-trace protein might be a promising marker in the diagnosis of perilymphatic fluid fistulas.

L5 ANSWER 2 OF 17 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2004:20713 CAPLUS Full-text
DOCUMENT NUMBER: 140:92586

TITLE: Antibody specific to cochlin N-terminal sequence for diagnosis of perilymphatic fistula
INVENTOR(S): Ikezono, Tetsuo; Yagi, Toshiaki; Omori, Akira
PATENT ASSIGNEE(S): Nippon Medical School Foundation, Japan
SOURCE: PCT Int. Appl., 65 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004003020	A1	20040108	WO 2003-JP8123	20030626
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2003243985	A1	20040119	AU 2003-243985	20030626
JP 2004085552	A	20040318	JP 2003-182860	20030626
EP 1533319	A1	20050525	EP 2003-736265	20030626
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
CN 1665841	A	20050907	CN 2003-815172	20030626
CN 100335502	C	20070905		
US 20060246516	A1	20061102	US 2006-517778	20060414

PRIORITY APPLN. INFO.: JP 2002-187479 A 20020627
WO 2003-JP8123 W 20030626

ED Entered STN: 11 Jan 2004
AB It is intended to provide a method of conveniently and surely detecting a perilymphatic fistula at a low invasion degree for a patient. The method of detecting a perilymphatic fistula comprises detecting the existence of Cochlin in a body fluid in the middle ear. The method and test kit comprises antibody specific to cochlin N-terminal sequence.
REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 3 OF 17 MEDLINE on STN DUPLICATE 2
ACCESSION NUMBER: 2001246524 MEDLINE Full-text
DOCUMENT NUMBER: PubMed ID: 11320831
TITLE: Traces of perilymph detected in epipharyngeal fluid: perilymphatic fistula as a cause of sudden hearing loss diagnosed with beta-trace protein (prostaglandin D synthase) immunoelectrophoresis.
AUTHOR: Bachmann G; Nekic M; Michel O
CORPORATE SOURCE: Department of Otorhinolaryngology and Neurology, University of Cologne, Cologne, Germany.. gregor.bachmann@uni-koeln.de
SOURCE: The Journal of laryngology and otology, (2001 Feb) Vol. 115, No. 2, pp. 132-5.
Journal code: 8706896. ISSN: 0022-2151.
PUB. COUNTRY: England: United Kingdom
DOCUMENT TYPE: (CASE REPORTS)
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Abridged Index Medicus Journals; Priority Journals

ENTRY MONTH: 200105
ENTRY DATE: Entered STN: 17 May 2001
Last Updated on STN: 17 May 2001
Entered Medline: 10 May 2001
ED Entered STN: 17 May 2001
Last Updated on STN: 17 May 2001
Entered Medline: 10 May 2001
AB The incidence of perilymphatic fistula as cause of sudden hearing loss is not known. We present a case with sudden unilateral hearing loss associated with a positive beta-trace protein test of an epipharyngeal fluid sample. The patient presented with sudden sensorineural hearing loss on the right side. A stapedotomy had been performed nine months previously due to otosclerosis. Intravenous therapy for the treatment of sudden hearing loss was unsuccessful. At the time of sudden hearing loss, epipharyngeal fluid was collected using a Raucocel sinus pack. Investigation using rocket immunoelectrophoresis showed the presence of beta-trace protein. Upon repeating tympanoscopy there was no obvious labyrinthine fluid egress, but the oval window was sealed with fibrin sponge and fibrin glue. The patient's hearing improved over a period of five months.

L5 ANSWER 4 OF 17 MEDLINE on STN DUPLICATE 3
ACCESSION NUMBER: 2000225068 MEDLINE Full-text
DOCUMENT NUMBER: PubMed ID: 10763998
TITLE: Transferrin microheterogeneity in human perilymph.
AUTHOR: Rauch S D
CORPORATE SOURCE: Department of Otolaryngology, Harvard Medical School at Massachusetts Eye and Ear Infirmary, Boston 02114-3096, USA.
CONTRACT NUMBER: R01 DC01654 (United States NIDCD)
SOURCE: The Laryngoscope, (2000 Apr) Vol. 110, No. 4, pp. 545-52.
Journal code: 8607378. ISSN: 0023-852X.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, U.S. GOV'T, P.H.S.)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200004
ENTRY DATE: Entered STN: 5 May 2000
Last Updated on STN: 5 May 2000
Entered Medline: 24 Apr 2000
ED Entered STN: 5 May 2000
Last Updated on STN: 5 May 2000
Entered Medline: 24 Apr 2000
AB OBJECTIVES/HYPOTHESIS: Assay for beta2-(asialo-) transferrin has been advocated for use in diagnosis of cerebrospinal fluid (CSF) leak or perilymphatic fistula based on the fact that it is present in these fluids but not in serum. Quantitation of the sensitivity of transferrin assays has not been reported previously. The present study was undertaken to quantify the sensitivity of a microelectrophoretic assay of beta2-transferrin and assess its potential applicability to clinical diagnosis of perilymphatic fistula. STUDY DESIGN: The initial part of the study was a prospective bench biochemistry assessment of assay sensitivity and reliability. Subsequent application of the assay was a blinded prospective clinical trial. METHODS: Transferrin is a ubiquitous monomeric glycoprotein consisting of 679 amino acids, two iron-binding sites, and two N-linked complex glycan chains. The N-glycan chains branch in variable degree, carrying from zero to eight sialic acid residues. This variation in sialylation has been termed "microheterogeneity." When both iron-binding sites are saturated, the microheterogeneity of sialic acid content results in isoelectric points ranging from pH 5 to pH 6. Thus these nine transferrin variants can be

distinguished by isoelectric focusing. Samples of transferrin solution or body fluids (serum, CSF, and perilymph) were incubated in iron-loading buffer to saturate both iron-binding sites and then subjected to isoelectric focusing (IEF). The separated proteins were immunoprecipitated in the IEF gel and silver stained for visualization. Serial dilutions of pure transferrin solution were used to determine assay sensitivity. Neuraminidase was used to digest sialic acid side chains from pure transferrin in solution, and the reaction product was used as a reference standard for comparison to assay of unknown fluids. Patient inner ear fluid samples obtained during stapedectomy or cochlear implantation were used to assess clinical applicability of the assay. RESULTS: This microelectrophoretic technique, using only 0.3 microL of iron-loaded sample, was able to consistently detect less than 250 pg of transferrin in solution and separate the different sialylation variants based on their isoelectric points. Assay of patient serum samples clearly demonstrated transferrin microheterogeneity. Assay of CSF consistently showed the predicted beta2-(asialo-) transferrin band. Assay of inner ear fluid samples also demonstrated transferrin microheterogeneity. However, no inner ear fluid samples had detectable levels of beta2-transferrin. Presumably, perilymph sample dilution during iron loading and by admixture with serum, local anesthetic, or middle ear secretions lowered the beta2-transferrin concentration below the detection limen of the assay. CONCLUSIONS: Microelectrophoretic assay of iron-loaded transferrin can detect as little as 250 pg of protein and can identify microheterogeneity in serum, CSF, and perilymph. However, dilutional effects of sample handling and preparation can lower the beta2-transferrin concentration of inner ear fluid samples below the detection limen of the assay. Thus, depending on the relative amounts of serum and perilymph (or CSF) in a mixed sample, electrophoretic separation of transferrin variants may not be diagnostic.

L5 ANSWER 5 OF 17 MEDLINE on STN
ACCESSION NUMBER: 1999430924 MEDLINE Full-text
DOCUMENT NUMBER: PubMed ID: 10503599
TITLE: Implications of beta-2 transferrin assay as a marker for perilymphatic versus cerebrospinal fluid labyrinthine fistula.
AUTHOR: Bluestone C D
SOURCE: The American journal of otology, (1999 Sep) Vol. 20, No. 5, pp. 701.
Journal code: 7909513. ISSN: 0192-9763.
PUB. COUNTRY: United States
DOCUMENT TYPE: Commentary
Letter
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199910
ENTRY DATE: Entered STN: 1 Nov 1999
Last Updated on STN: 3 Mar 2000
Entered Medline: 21 Oct 1999
ED Entered STN: 1 Nov 1999
Last Updated on STN: 3 Mar 2000
Entered Medline: 21 Oct 1999

L5 ANSWER 6 OF 17 EMBASE
ACCESSION NUMBER: 2000081332 EMBASE Full-text
TITLE: Implications of beta-2 transferrin assay as a marker for perilymphatic versus cerebrospinal fluid labyrinthine fistula [2].
AUTHOR: Bluestone, C.D., Dr. (correspondence)
CORPORATE SOURCE: Pediatric Otolaryngology, Univ. of Pittsburgh Sch. of Medicine, Pittsburgh, PA, United States.

SOURCE: American Journal of Otology, (1999) Vol. 20, No. 5, pp. 701.
Refs: 3
ISSN: 0192-9763 CODEN: AJOTBN
COUNTRY: United States
DOCUMENT TYPE: Journal; Letter
FILE SEGMENT: 011 Otorhinolaryngology
007 Pediatrics and Pediatric Surgery
LANGUAGE: English
ENTRY DATE: Entered STN: 23 Mar 2000
Last Updated on STN: 23 Mar 2000
ED Entered STN: 23 Mar 2000
Last Updated on STN: 23 Mar 2000

L5 ANSWER 7 OF 17 MEDLINE on STN DUPLICATE 4
ACCESSION NUMBER: 1999198617 MEDLINE Full-text
DOCUMENT NUMBER: PubMed ID: 10100518
TITLE: Beta-2 transferrin assay in the identification of perilymph.
AUTHOR: Buchman C A; Luxford W M; Hirsch B E; Fucci M J; Kelly R H
CORPORATE SOURCE: Department of Otolaryngology, University of Miami School of Medicine, Florida, USA.
SOURCE: The American journal of otology, (1999 Mar) Vol. 20, No. 2, pp. 174-8.
Journal code: 7909513. ISSN: 0192-9763.
PUB. COUNTRY: United States
DOCUMENT TYPE: (COMPARATIVE STUDY)
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199905
ENTRY DATE: Entered STN: 7 Jun 1999
Last Updated on STN: 29 Feb 2000
Entered Medline: 27 May 1999
ED Entered STN: 7 Jun 1999
Last Updated on STN: 29 Feb 2000
Entered Medline: 27 May 1999
AB HYPOTHESIS: Western blot assay for beta-2 transferrin protein is a clinically useful method for the detection of human perilymph and should be used for the diagnosis of perilymph fistulas (PLFs). BACKGROUND: Considerable controversy exists regarding the diagnosis of PLF. Recent studies suggest that the detection of beta-2 transferrin protein may be useful in the identification of perilymph. METHODS: To evaluate the usefulness of the beta-2 transferrin assay for identifying human perilymph, paired perilymph samples and negative controls were collected on Gelfoam pledgets from 20 patients who had surgery that opened the inner ear. Blinded immunoelectrophoretic assay (Western blot) for beta-2 transferrin was performed on each specimen. RESULTS: Only one (5%) of the known perilymph samples and none of the control specimens were definitely positive for beta-2 transferrin. Combined with historical data, this assay has 29% sensitivity, 100% specificity, 100% positive predictive value, and 31% negative predictive value. CONCLUSIONS: These findings suggest that the beta-2 transferrin protein assay may not be a reliable method for detecting human perilymph when performed using this technique.

L5 ANSWER 8 OF 17 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1998:411371 CAPLUS Full-text
DOCUMENT NUMBER: 129:146011
ORIGINAL REFERENCE NO.: 129:29691a,29694a
TITLE: AP30, a differential protein marker for perilymph and cerebrospinal fluid in middle ear fluid, has been purified and identified as human apolipoprotein D

AUTHOR(S): Sun, Quan; Disher, Michael J.; Rustad, Todd; Telian, Steven A.; Andrews, Philip C.
CORPORATE SOURCE: Dep. of Biological Chemistry, University of Michigan Medical School, Ann Arbor, MI, 48109-0674, USA
SOURCE: Biochimica et Biophysica Acta, Protein Structure and Molecular Enzymology (1998), 1384(2), 405-413
CODEN: BBAEDZ; ISSN: 0167-4838
PUBLISHER: Elsevier B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 08 Jul 1998
AB Using two-dimensional (2-D) gel electrophoresis, human perilymph and cerebrospinal fluid have been shown to be highly enriched for an acidic protein with Mr 30,000; we designated it as AP30. The protein exhibits charge heterogeneity, with at least eight isoforms visible between pI 4.5 to 5.5 on 2-D gels. Purification of the protein was carried out by ammonium sulfate precipitation, polybuffer exchanger column chromatofocusing, and acetone fractional precipitation The resulting preparation also contains eight spots in the acidic area of 2-D gels and one broad band located at Mr 30,000 by SDS-PAGE. Digestion of AP30 with neuraminidase causes the isoforms to shift to a more basic position and to consolidate into two primary spots, indicating that AP30 is a variably sialylated glycoprotein. Amino acid anal. of AP30 revealed an amino acid content very similar to that of human apolipoprotein D. Attempts to determine the amino acid sequence demonstrated that the N-terminus is blocked. Edman sequencing of two peptide fragments, generated by cyanogen bromide cleavage of AP30, both revealed sequences having 100% identity to human apolipoprotein D. Western blot anal. of AP30 with the antibody against authentic human apolipoprotein D demonstrated a high degree of cross-reactivity. These studies indicate that AP30 from human perilymph and cerebrospinal fluid is a member of the apolipoprotein D family.
REFERENCE COUNT: 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 9 OF 17 MEDLINE on STN DUPLICATE 5
ACCESSION NUMBER: 1996233855 MEDLINE Full-text
DOCUMENT NUMBER: PubMed ID: 8646819
TITLE: Perilymph detection by beta 2-transferrin immunoblotting assay. Application to the diagnosis of perilymphatic fistulae.
AUTHOR: Delaroche O; Bordure P; Lippert E; Sagniez M
CORPORATE SOURCE: Service de Biochimie Generale, Hopital G&R Laennec, Nantes, France.
SOURCE: Clinica chimica acta; international journal of clinical chemistry, (1996 Feb 9) Vol. 245, No. 1, pp. 93-104.
Journal code: 1302422. ISSN: 0009-8981.
PUB. COUNTRY: Netherlands
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199607
ENTRY DATE: Entered STN: 5 Aug 1996
Last Updated on STN: 5 Aug 1996
Entered Medline: 25 Jul 1996
ED Entered STN: 5 Aug 1996
Last Updated on STN: 5 Aug 1996
Entered Medline: 25 Jul 1996
AB beta 2-Transferrin, the asialotransferrin, is found in cerebrospinal fluid (CSF) and inner ear perilymph, but is absent from serum and other body fluids or secretions except the aqueous humor. The detection of this asialo-fraction of the transferrin in ear fluid microsamples with an immunoblotting technique is of great interest when a perilymphatic fistula (PLF) is suspected. beta 2-

Transferrin was detected on microsamples collected by syringe or on micro-collagen sponges from 30 patients undergoing ear surgery. The problem is reviewed, the technique and sample preparation are explained and the results discussed. beta 2-Transferrin detection in the ear fluid allows the identification of perilymph, except in the CSF oto- or rhinorrheal context, and is proposed as a promising test to confirm perilymphatic fistula.

L5 ANSWER 10 OF 17 MEDLINE on STN DUPLICATE 6
ACCESSION NUMBER: 1996149555 MEDLINE Full-text
DOCUMENT NUMBER: PubMed ID: 8588619
TITLE: Correlation of beta-2 transferrin and middle ear abnormalities in congenital perilymphatic fistula.
AUTHOR: Weber P C; Bluestone C D; Kenna M A; Kelley R H
CORPORATE SOURCE: Center for Hearing and Balance Disorders, Medical University of South Carolina, Charleston, USA.
SOURCE: The American journal of otology, (1995 May) Vol. 16, No. 3, pp. 277-82.
Journal code: 7909513. ISSN: 0192-9763.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199603
ENTRY DATE: Entered STN: 4 Apr 1996
Last Updated on STN: 4 Apr 1996
Entered Medline: 25 Mar 1996
ED Entered STN: 4 Apr 1996
Last Updated on STN: 4 Apr 1996
Entered Medline: 25 Mar 1996
AB Congenital perilymphatic fistula (PLF) as a diagnosis for progressive, fluctuating, or sudden sensorineural hearing loss with or without vertigo is still controversial. Beta-2 transferrin is a protein that is unique to cerebrospinal fluid, aqueous humor, and perilymph. A recent pilot study demonstrated that beta-2 transferrin may be an objective test to determine the existence of a congenital PLF. The authors prospectively evaluated and recommended surgery for 43 children with suspected PLF over the past 3 years. A prospective, blinded study was performed by having the attending otolaryngologist evaluate the middle ear at the time of surgery for a PLF and any middle ear abnormalities. Samples of fluid were collected from the oval and round windows and were tested for beta-2 transferrin. Of 16 patients undergoing tympanoplasty or tympanomastoidectomy who served as controls, none were positive for beta-2 transferrin. Of the 43 patients undergoing exploratory tympanoplasty for PLF, 20 (46.5%) were considered to be negative for PLF on microscopic visualization; 23 (53.5%) were found to be positive. Of the 20 patients thought to be negative for PLF, 18 (90%) tested negative for beta-2, but 2 of these patients were positive for beta-2, and both had a congenital middle ear abnormality. Of the 23 patients found to have a PLF at surgery, 6 (26.1%) tested positive for beta-2, and all of these 6 had middle ear abnormalities. Of the 17 patients negative for beta-2, 9 had normal anatomy; 6 had middle ear abnormalities, and 2 had erosive changes. The authors conclude that beta-2 transferrin, an objective test, confirms the existence of congenital PLF in children, which is associated with middle ear abnormalities.

L5 ANSWER 11 OF 17 MEDLINE on STN DUPLICATE 7
ACCESSION NUMBER: 1994224472 MEDLINE Full-text
DOCUMENT NUMBER: PubMed ID: 8170681
TITLE: Beta 2-transferrin confirms perilymphatic fistula in children.

AUTHOR: Weber P C; Kelly R H; Bluestone C D; Bassiouny M
CORPORATE SOURCE: Department of Otolaryngology, University of Pittsburgh School of Medicine, PA.
SOURCE: Otolaryngology--head and neck surgery : official journal of American Academy of Otolaryngology-Head and Neck Surgery, (1994 Apr) Vol. 110, No. 4, pp. 381-6.
Journal code: 8508176. ISSN: 0194-5998.
PUB. COUNTRY: United States
DOCUMENT TYPE: (CLINICAL TRIAL)
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199405
ENTRY DATE: Entered STN: 13 Jun 1994
Last Updated on STN: 13 Jun 1994
Entered Medline: 27 May 1994
ED Entered STN: 13 Jun 1994
Last Updated on STN: 13 Jun 1994
Entered Medline: 27 May 1994
AB beta 2-Transferrin is a protein that is unique to the cerebrospinal fluid and aqueous humor. On the basis of this information and a recent study from our institution that demonstrated that beta 2-transferrin was also unique to human perilymph, a prospective, double-blind study to evaluate perilymphatic fistula in children was performed. Attending otolaryngologists at Children's Hospital of Pittsburgh evaluated and recommended surgery for 10 children (10 ears) who were suspected of having a congenital perilymphatic fistula. During the operation, the surgeon decided whether a perilymphatic fistula existed, on the basis of otomicroscopic findings, and then separate pieces of gelatin sponge were placed on the oval and round windows, respectively, and sent to the immunopathology laboratory where they were analyzed for beta 2-transferrin. Ten patients (10 ears) undergoing tympanoplasty or tympanomastoidectomy were used as controls and tested in a similar fashion. During the study, both the surgeons and patients were blinded from the results of the test. Of the 10 control patients, none was observed to have a perilymphatic fistula, and all were negative for beta 2-transferrin. Of the 10 patients undergoing exploratory tympanotomy for perilymphatic fistula, 1 ear was thought to be negative for perilymphatic fistula on microscopic visual examination, whereas 9 were considered to be positive for perilymphatic fistula. No beta 2-transferrin was identified from the ear that was considered not to have a perilymphatic fistula, whereas six of the nine ears that were thought to have perilymphatic fistula tested positive for beta 2-transferrin.(ABSTRACT TRUNCATED AT 250 WORDS)

L5 ANSWER 12 OF 17 MEDLINE on STN DUPLICATE 8
ACCESSION NUMBER: 1994366781 MEDLINE Full-text
DOCUMENT NUMBER: PubMed ID: 8084635
TITLE: Protein profile of human perilymph: in search of markers for the diagnosis of perilymph fistula and other inner ear disease.
AUTHOR: Thalmann I; Kohut R I; Ryu J; Comegys T H; Senarita M; Thalmann R
CORPORATE SOURCE: Department of Otolaryngology, Washington University School of Medicine, St. Louis, MO 63110.
CONTRACT NUMBER: DC00589 (United States NIDCD)
DC01374 (United States NIDCD)
DC01414 (United States NIDCD)
SOURCE: Otolaryngology--head and neck surgery : official journal of American Academy of Otolaryngology-Head and Neck Surgery, (1994 Sep) Vol. 111, No. 3 Pt 1, pp. 273-80.
Journal code: 8508176. ISSN: 0194-5998.

PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, U.S. GOV'T, P.H.S.)
LANGUAGE: English
FILE SEGMENT: Priority Journals
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ENTRY DATE: Entered STN: 21 Oct 1994
Last Updated on STN: 21 Oct 1994
Entered Medline: 10 Oct 1994
ED Entered STN: 21 Oct 1994
Last Updated on STN: 21 Oct 1994
Entered Medline: 10 Oct 1994
AB Recent developments in high-resolution two-dimensional polyacrylamide gel electrophoresis, combined with amino acid sequencing and computer-assisted image analysis, have allowed separation of approximately 100 proteins and identification and quantitation of some 30 proteins in human perilymph. The majority of proteins were found to be present in perilymph at levels in basic agreement with the total protein gradient between perilymph and plasma (1:35). However, several striking differences were observed: (1) beta 2-transferrin, known to be absent from normal plasma but present in cerebrospinal fluid, was detected in perilymph at a concentration roughly equal to that in cerebrospinal fluid; and (2) two high-density lipoprotein-associated apolipoproteins--apo D (formerly PLS:33) and apo J or NA1 and NA2 (formerly PSL:29/30), the latter showing identity with SP40/40, or cytolysis inhibitor--were found to be present at concentrations 1 to 2 orders of magnitude higher when examined in terms of total protein and to be comparable with or higher than plasma levels when examined in terms of absolute concentrations. The functional significance of the extremely high levels of the two apolipoproteins is not known at this time. An attempt was made to use beta 2-transferrin, as well as apo D and apo J (NA1/NA2), as markers for the diagnosis of perilymph fistula, one of the most controversial and challenging problems for the otologist today. It was determined that the technique is indeed applicable when relatively pure fistula samples are analyzed. Limitations and potential improvements of the technique are discussed. In addition, the potential usefulness of two-dimensional polyacrylamide gel electrophoresis in other pathologic conditions of the inner ear is discussed briefly.

L5 ANSWER 13 OF 17 MEDLINE on STN
ACCESSION NUMBER: 1995243552 MEDLINE Full-text
DOCUMENT NUMBER: PubMed ID: 7726472
TITLE: [Perilymph fistula: diagnosis by detection of perilymph in the middle ear by beta-2 transferrin immunofixation].
Fistules perilymphatiques: diagnostic par la detection de la perilymphe dans l'oreille moyenne par immunofixation de la beta 2 transferrine.
AUTHOR: Bordure P; Delaroche O; Beauvillain C; Legent F
CORPORATE SOURCE: Service d'ORL, Hotel-Dieu, CHR de Nantes.
SOURCE: Annales d'oto-laryngologie et de chirurgie cervico faciale : bulletin de la Societe d'oto-laryngologie des hopitaux de Paris, (1994) Vol. 111, No. 4, pp. 180-4.
Journal code: 9431026. ISSN: 0003-438X.
PUB. COUNTRY: France
DOCUMENT TYPE: (CASE REPORTS)
(ENGLISH ABSTRACT)
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: French
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199505
ENTRY DATE: Entered STN: 5 Jun 1995

Last Updated on STN: 5 Jun 1995
Entered Medline: 23 May 1995

ED Entered STN: 5 Jun 1995
Last Updated on STN: 5 Jun 1995
Entered Medline: 23 May 1995

AB beta 2-transferrin is a specific protein found in the cerebrospinal fluid and in the perilymph. Detecting beta 2-transferrin in the middle ear is of great interest when a fistula of the perilymph is suspected. This protein can be detected on microsamples with an immunofixation technique. We searched for beta 2-transferrin in pure perilymph, cerebrospinal fluid and serum in 8 patients operated by translabyrinthine approach for acoustic tumor removal. Search for beta 2-transferrin was performed in liquid from the inner ear in 3 labyrinthectomies. Samples were taken on collagen sponges or with micro syringes. beta 2-transferrin was detected in the perilymph of patients operated for neurinoma and in 2 of the 3 labyrinthectomies. This protein was found in only one of the patients for which the diagnosis of perilymphatic fistula had been retained. Detection of beta 2-transferrin in the middle ear can be proposed as a specific diagnostic test for perilymphatic fistula when the clinical situation does not suggest a fistula involving cerebrospinal fluid.

L5 ANSWER 14 OF 17 MEDLINE on STN DUPLICATE 9
ACCESSION NUMBER: 1994067814 MEDLINE Full-text
DOCUMENT NUMBER: PubMed ID: 8247566
TITLE: Sources of error in use of beta-2 transferrin analysis for diagnosing perilymphatic and cerebral spinal fluid leaks.
AUTHOR: Skedros D G; Cass S P; Hirsch B E; Kelly R H
CORPORATE SOURCE: Department of Otolaryngology-Head and Neck Surgery, University of Pittsburgh Medical Center.
SOURCE: Otolaryngology--head and neck surgery : official journal of American Academy of Otolaryngology-Head and Neck Surgery, (1993 Nov) Vol. 109, No. 5, pp. 861-4.
Journal code: 8508176. ISSN: 0194-5998.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199312
ENTRY DATE: Entered STN: 1 Feb 1994
Last Updated on STN: 3 Mar 2000
Entered Medline: 28 Dec 1993

ED Entered STN: 1 Feb 1994
Last Updated on STN: 3 Mar 2000
Entered Medline: 28 Dec 1993

AB Beta-2 transferrin is a protein found in cerebral spinal fluid and inner ear perilymph, but not in blood, nasal, or ear secretions. The clinical use of this test has been previously demonstrated, but sources of test error have not been addressed. The purpose of this study was to evaluate sources of error related to this test in order to improve its clinical use. We reviewed the specimens submitted for beta-2 analysis over the first 12 months of test availability at our institution to identify potential factors leading to test error. Sources of error were categorized into the following groups: sample collection, delivery, and extraction factors; assay factors; physician-related factors; and patient-related factors. The test for beta-2 transferrin is a valuable diagnostic tool for the management of difficult clinical problems, provided the physician is aware of potential factors that can lead to test error and clinical mismanagement.

L5 ANSWER 15 OF 17 MEDLINE on STN DUPLICATE 10
ACCESSION NUMBER: 1994111167 MEDLINE Full-text
DOCUMENT NUMBER: PubMed ID: 8283502
TITLE: Beta-2 transferrin assay in clinical management of cerebral spinal fluid and perilymphatic fluid leaks.
AUTHOR: Skedros D G; Cass S P; Hirsch B E; Kelly R H
CORPORATE SOURCE: Department of Otolaryngology/Head and Neck Surgery, University of Pittsburgh Medical Center, Eye and Ear Hospital, Pa 15213.
SOURCE: The Journal of otolaryngology, (1993 Oct) Vol. 22, No. 5, pp. 341-4.
Journal code: 7610513. ISSN: 0381-6605.
PUB. COUNTRY: Canada
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199402
ENTRY DATE: Entered STN: 28 Feb 1994
Last Updated on STN: 3 Mar 2000
Entered Medline: 17 Feb 1994
ED Entered STN: 28 Feb 1994
Last Updated on STN: 3 Mar 2000
Entered Medline: 17 Feb 1994
AB Beta-2 transferrin is a protein found in cerebral spinal fluid (CSF) and inner ear perilymph, but not in blood, nasal or ear secretions. The purpose of this paper is to evaluate the clinical usefulness of the current assay for beta-2 transferrin for detecting CSF and perilymphatic leaks. We reviewed the hospital records of the first 88 patients having specimens submitted for beta-2 transferrin analysis at our institution. Both CSF and perilymph leaks were identified. However, confirmation of the absence or presence of beta-2 transferrin was directly used in the clinical management of only 55% of the patients. This was largely secondary to the time delay in test processing and initial lack of physician confidence with the test. However, our review of the clinical outcomes relating to the use of the beta-2 transferrin analysis suggests high sensitivity and specificity for the test. Analysis of beta-2 transferrin appears to be a valuable test for detecting CSF leakage and a promising test for confirming perilymphatic leaks. However, to achieve greater clinical usefulness a rapid clinical assay needs to be developed and further information gained regarding the sensitivity and specificity of the beta-2 transferrin assay for detecting CSF and perilymphatic fluid leakage.

L5 ANSWER 16 OF 17 MEDLINE on STN DUPLICATE 11
ACCESSION NUMBER: 1993080226 MEDLINE Full-text
DOCUMENT NUMBER: PubMed ID: 1449183
TITLE: Beta 2 transferrin application in otology.
AUTHOR: Bassiouny M; Hirsch B E; Kelly R H; Kamerer D B; Cass S P
CORPORATE SOURCE: Department of Otolaryngology, University of Alexandria Medical School, Egypt.
SOURCE: The American journal of otology, (1992 Nov) Vol. 13, No. 6, pp. 552-5.
Journal code: 7909513. ISSN: 0192-9763.
PUB. COUNTRY: United States
DOCUMENT TYPE: (CASE REPORTS)
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199212
ENTRY DATE: Entered STN: 29 Jan 1993
Last Updated on STN: 29 Jan 1993
Entered Medline: 29 Dec 1992

ED Entered STN: 29 Jan 1993
Last Updated on STN: 29 Jan 1993
Entered Medline: 29 Dec 1992

AB The diagnosis and management of perilymphatic fistula has received considerable attention in recent years. Despite the use of sophisticated technology, the diagnosis of perilymphatic fistula continues to rest primarily upon clinical suspicion and the exclusion of other disorders. In addition, the confirmation of a perilymphatic fistula during surgical exploration is usually based upon the subjective observation of fluid pooling in niches of the middle ear. A sensitive and objective laboratory test for identifying perilymph in the middle ear would be a useful adjunct for the diagnosis and management of perilymphatic fistula. The objective of this paper is to demonstrate the potential utility of beta 2 (beta 2) transferrin assay in the diagnosis of perilymphatic fistula. To accomplish this objective, we confirmed that beta 2 transferrin is present in living human perilymph and is absent in the normal or inflamed middle ear. In addition, the utility of beta 2 transferrin assay in the diagnosis of cerebrospinal fluid otorrhea is presented.

L5 ANSWER 17 OF 17 MEDLINE on STN DUPLICATE 12
ACCESSION NUMBER: 1991246453 MEDLINE Full-text
DOCUMENT NUMBER: PubMed ID: 1710047
TITLE: Identification of perilymph proteins by two-dimensional gel electrophoresis.
AUTHOR: Paugh D R; Telian S A; Disher M J
CORPORATE SOURCE: Department of Otolaryngology, Head and Neck Surgery, University of Michigan Medical Center, Ann Arbor 48109.
SOURCE: Otolaryngology--head and neck surgery : official journal of American Academy of Otolaryngology-Head and Neck Surgery, (1991 Apr) Vol. 104, No. 4, pp. 517-25.
Journal code: 8508176. ISSN: 0194-5998.
PUB. COUNTRY: United States
DOCUMENT TYPE: (COMPARATIVE STUDY)
Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199106
ENTRY DATE: Entered STN: 19 Jul 1991
Last Updated on STN: 29 Jan 1996
Entered Medline: 28 Jun 1991

ED Entered STN: 19 Jul 1991
Last Updated on STN: 29 Jan 1996
Entered Medline: 28 Jun 1991

AB Perilymph has a total protein component that is quantitatively distinct from serum and cerebrospinal fluid (CSF). The goal of this research was to determine if perilymph contains any qualitatively unique protein constituents that will distinguish it from serum or CSF. To test this hypothesis, matched sets of perilymph, serum, and CSF were obtained from 18 guinea pigs and seven human subjects. The purity of each sample was assured by measurement of the protein concentration of each sample and comparison of this parameter to known normal values for perilymph, serum, and CSF. Each sample was then subjected to two-dimensional gel electrophoresis, separating proteins by isoelectric point in the horizontal dimension and by relative molecular weight in the vertical dimension. All gels were processed under precisely identical physical conditions by use of a diamine silver stain. A small number of perilymph proteins not found in plasma were identified in both the guinea pig and the human specimens. The finding of unique perilymph proteins may permit

the development of a sensitive marker that will aid in the diagnosis of perilymph fistula.

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FILE 'MEDLINE, BIOSIS, CAPLUS, EMBASE' ENTERED AT 13:06:42 ON 20 OCT 2008
L1 93 S (COCH OR COCHLIN OR COCH5B2 OR COCH-5B2 OR AW122937 OR DFNA9 OR DFNA31 OR DFNA-9 OR DFNA-31)(20A)(PERILYMPH? OR (INNER
L2 37 DUP REM L1 (56 DUPLICATES REMOVED)
L3 1626 S PERILYMPH?(5A)(LEAK? OR FISSURE OR FISTULA?)
L4 41 S L3(20A)(ANTIBOD? OR ?TRANSFERRIN? OR GM1 OR ?GANGLIOSIDE? OR PROSTAGLANDIN(2A)SYNTHASE OR ?PDGS OR MARKER? OR BIOMARK
L5 17 DUP REM L4 (24 DUPLICATES REMOVED)

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